California State Journal of Medicine

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MEDICAL SOCIETY OF THE STATE OF CALIFORNIA

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CONTENTS.

ENTERED AT SAN FRANCISCO, CAL. AS SECOND-CLASS MATTER

(SEE PAGE XI)

California State Journal of Medicine.

Owned and Published Monthly by the

Medical Society of the State of California

PHILIP MILLS JONES, M. D., Secretary and Editor

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IMPORTANT NOTICE!

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Notify the office promptly of any change of address, in order that mailing list and addresses in the Register may be corrected.

VOL. XIV SEPTEMBER, 1916 No. 9

EDITORIAL NOTES

MALPRACTICE INDEMNITY FUND.

If a good many members who have expressed approval of the plan presented in the July JOURNAL—whereby an indemnity fund is to be created, out of which fund any possible judgments or settlements in actions brought against contributors to the fund can be settled—do not act, the whole plan will fall. If you have not sent in your check for $15 and your note for a like amount payable one year after date, do so at once. Find your copy of the July JOURNAL and read the details of the plan as therein presented. It is one of the best business propositions ever put before the members of the medical profession. Up to the time of writing, less than fifty subscriptions have been received, and more than fifty members have been heard to say that they intended to come in, that the idea was a fine one, etc. Approval without action may allow the plan to fall. Early in September a letter on the subject will be sent to every member of the Society. If you happen to be one of those who have already contributed, and receive this letter, pay no attention to it.

PROGRAM COMMITTEE.

The Committee on Scientific Program of the State Medical Society has met, organized, and laid out an excellent plan for the scientific program of the next session, which will be held at Coronado. Dr. A. B. Grosse of San Francisco was elected Chairman, and Dr. R. A. Peers of Colfax, Secretary. The President of the Society, Dr. Kress, has strongly recommended to the Program Committee that they require abstracts of the papers to be read to be in the hands of the committee at least sixty days before the meeting. This will allow the abstracts to be published in the JOURNAL of the month before the meeting, and permit those who are interested to attend and discuss the papers which principally attract their attention.

At this meeting of the Program Committee there was unanimity of opinion on several points in regard to previous programs. First, too many papers; second, too little new or original work; third, an insufficient number of interesting symposia; fourth, too much textbook re-hash. It has been positively decided that the number of papers will be strictly limited and that the committee will require an abstract of every paper and will consider the nature and scope of papers, eliminating such as are considered undesirable. Original research work of present interest will receive preferential treatment. Time for lantern slides and demonstration of plates will only be allowed for original work and will not be allowed for showing copies from textbooks or previously published reports.

Those who are interested in the general program and wish to be represented therein should address Dr. R. A. Peers, Colfax.

Those who are interested in any one of the various sections should address the secretary of the particular section. It is to be remembered that the Society at the last meeting created two new sections: Obstetrics and Gynecology, and Nervous and Mental Diseases. The chairmen of these sections respectfully request that all members interested in the respective subjects address the secretary as soon as possible so that lists of those desiring to join these sections may be prepared. The following are the various sections of the Society together with their officers:

Eye, Ear, Nose and Throat Section.
Chairman, B. F. Church, Redlands.
Secretary, G. P. Wintermute, San Francisco.

Obstetrics and Gynecology.
Chairman, E. N. Ewer, Oakland.
Secretary, A. B. Spalding, San Francisco.

Genito-Urinary.
Chairman, Victor G. Vecki, San Francisco.
Secretary, W. E. Stevens, San Francisco.

Nervous and Mental Diseases.
Chairman, A. W. Hoisholt, Napa.
Secretary, J. Ross Moore, Los Angeles.

GRIEVANCE COMMITTEE.

It will be recalled that when the agreement between the committee of the State Medical Society and the committee of the Underwriters' Board of Adjusters was presented for consideration by the Society two years ago, part of the plan included the formation of a joint committee which should consider complaints and recommend solutions. This committee was duly appointed some time ago and is known as the Grievance Committee. The first session of the committee was held early in August and a considerable amount of preliminary work was done. It was an interesting meeting in several ways. In the first place, every member of the committee attended and every member took a deep interest in the proposed work of the committee. It was agreed unanimously that the committee would not consider hypothetical questions, nor would it act in an advisory capacity until a definite issue was presented. In other words, it would not advise an employer or an insurance company as to whether or not a bill should be paid until the issue arose between the doctor and the company, the company offering a reduced payment or objecting to a bill and the doctor flatly refusing the adjustment. Furthermore, it would not advise a physician in the matter of his charges until the issue between himself and the company, or employer, was definite. It was unanimously agreed that no fixed rules should be made and that each case should be considered by itself. Furthermore, in dealing with each individual case, the physician will be advised as to the attitude of the committee, and generally it will be necessary to inform him where he has not presented his case properly. The same information will be furnished the insurance company, or the employer, and if this does not produce a satisfactory adjustment, subsequent action may be taken.

The cases presented for consideration by the committee were, speaking generally, of two classes: 1, where the physician had obviously most dishonestly padded his accounts; and 2, where the physician had a just account but had not explained the circumstances to the insurance company. The insurance companies are perfectly willing to pay fees in excess of those specified in the fee schedule where the services given are unusual and extraordinary. The State Commission and all the insurance companies are perfectly willing to pay legitimate fees, but they quite naturally do not wish to be robbed.

CARELESS DOCTORS.

The good intentions of the various insurance companies, and the fact that they are dealing more than squarely with physicians, has been shown very clearly in more ways than one. In particular, however, it is very apparent that they have no desire to take advantage of technicalities. For example, under the Industrial Accident Law, the physician must present his claim for services rendered within six months; the claim outlaws at the expiration of six months. A great many physicians pay no attention to this and wait for eight, ten, or even eighteen months before sending in their bill. In one case reported to the JOURNAL, the physician treated a number of accident cases quite satisfactorily to the insurance company, but during a year and a half did not send in any bill. At the end of that time he came to San Francisco and presented his collection of statements. These were entirely satisfactory in amount and were promptly paid, even though the statute of limitations had run against two-thirds of the amount.

Bear in mind that this work is somewhat different from ordinary professional work in that it involves a great deal of business. The reports required under the law should be promptly sent in and bills and statements should also be promptly sent in.

IN SUPPORT OF HEALTH INSURANCE.

A brief in support of health insurance prepared by the American Association for Labor Legislation and just issued from its New York headquarters gives in detail the facts which make health insurance legislation necessary in this country. The case for health insurance rests upon these fundamentals: the high sickness and death rates prevalent among American wage-earners; the need for more extended medical care; the necessity for a systematic method of meeting the wage loss due to sickness, and the need for further measures to prevent sickness. This situation, the report points out, cannot be met fully by existing agencies and can only be properly remedied by a system of compulsory health insurance embracing all wage-earners and dividing the cost among employer, employee and the state.

The absence of medical care common among wage-earners comes with the greatest force to the physician, partially because he is impressed by the large amount of gratuitous service always rendered by the medical profession. Nevertheless from 25 per cent. to 39 per cent. of the sick in industrial communities in the east have been found by actual investigation to be without medical care. To fill this gap, an extension of medical charity is both undesirable and improbable. It is undesirable because of its tendency to "pauperize" and because of the dread of charity felt by the American wage-earner; it is improbable because of that ever-present difficulty in financing such institutions and in distributing them according to the local need.

After an analysis of possible methods of providing medical care and a cash benefit to the sick breadwinner the Association concludes that compulsory health insurance alone offers the appropriate remedy. Moreover, health insurance contains possibilities for preventing illness not possessed by alternative forms of voluntary insurance. In the words of the report, "Compulsory health insurance is at once an economical method of providing for the needs of the wage worker and a mighty force for the inauguration of a comprehensive campaign for health conservation."

We cannot do better than to recommend a careful study of this brief to convince our readers that universal health insurance not only is inevitable but desirable and that it behooves the medical profession of California to be prepared on this question.

INFANT MORTALITY.

The seventh annual meeting of the American Association for the Study and Prevention of Infant Mortality will be held in Milwaukee, October 19-21, 1916. A number of very interesting subjects have been arranged for this meeting and undoubtedly it will be a very well attended session. Those who are interested in the subjects of pediatrics, vital statistics or infant mortality, can secure programs and full information in regard to the meeting by addressing the Executive Secretary, 1211 Cathedral street, Baltimore, Maryland.

SCIENTIFIC AMERICAN.

It is a great pleasure to announce the receipt of a letter from the editor of the *Scientific American,* in which he states that the lucubrations of Mr. Topliff, previously referred to in the STATE JOURNAL, are not in any way to be considered as emanating from the *Scientific American,* nor would that publication recognize the views set forth by this gentleman. It seemed strange that such a publication would allow this sort of material to go out under its name, and it is a great pleasure to state, on the assurance of the editor of the *Scientific American,* that the use of the name of that publication by the gentleman in question was entirely unauthorized.

WARNING!

The following warning has been sent out by W. B. Saunders Company. In addition to what they say, we can add that either this particular fraud, or some other, is now at work in California using the name of "The Progressive Department of the University of California." Of course there is no such department and the whole thing is a fake.

We are advised that a very clever swindle is being worked by a young man calling on physicians in various sections of the country. He is fraudulently soliciting orders and collecting money for subscriptions to medical journals and for medical books published by various firms. He usually represents himself as a student, working his way through college and trying to get a number of votes to help him win a certain contest. He sometimes uses the names of L. D. Grant, H. E. Peters, R. A. Douglas and F. C. Schneider, and he usually gives a receipt bearing the heading of some Society or Association, such as United Students' Aid Society; the Alumni Educational League; the American Association for Education, etc.

The description given of this swindler is: Young man of the Jewish type, rather slender, with very dark hair combed straight back, and shows his teeth plainly when talking.

The whole scheme is a fraud. The Societies mentioned do not exist. The idea is to collect money by offering special discounts and prices on medical books and journals and skip with the money.

This young man does not represent W. B. Saunders Company, whose name he frequently uses. He is a fraudulent subscription agent, and physicians, generally, should be on the lookout for him.

MALPRACTICE RULES.

Again must our members be warned to take particular notice of two very important rules made by the Society in regard to medical defense.

First, in all cases of fracture or injury to bones, joints and the like, an X-ray *plate* must be *made and kept.* The Society will not defend an action against a member arising out of such an accident or condition, where the member has not made *and kept* an X-ray *plate,* unless he offers a most satisfactory explanation of the reason why this was not done. During the last few years the JOURNAL has repeatedly warned the members of the Society that the time is quickly coming when courts will hold that the not taking of an X-ray plate is negligence. It is safe to prophesy that, although no court has up to the time of writing made such a definite ruling, some supreme court will rule in that way within the next two or three years. Several decisions have come very close to announcing this doctrine. Recently two members have been obliged to defend two suits at their own expense because of failure to comply with this rule.

Second, the matter of suing for the collection of an account within one year after the services were rendered. The Society will not defend a cross-complaint arising out of such a suit for collection, unless the member who wishes to bring the suit presents the case to the Council of the State Society and receives permission from the Council to proceed. Within the last two months three members have been obliged to defend actions of this character against them at their own expense.

Suits for damages for alleged malpractice against physicians are steadily increasing, and no single week passes without such a suit arising; in one week quite recently five suits were filed against members of this Society. In view of this condition of things, it is imperative that our members take every precaution to prevent the possibility of suits arising, and to make it practicable to defend them when they do arise. It is frequently a very difficult thing to prepare the defense in some of these actions, and when this has to be done without complete records in the doctor's possession the task becomes very much more difficult.

PURELY PERSONAL.

It is very seldom that the editor of this publication indulges in personal references to himself, but in view of the fact that certain members of the Society go out of their way to criticize the editor, not for what he does or says, but because he sometimes calls attention to certain unpleasant *facts,* the following letter indicating a welcome amount of appreciation, is published:

July 17, 1916.

My dear Doctor:

Enclosed find my check and note. I consider the plan a very sound one indeed, and trust enough members will come in to create a

very solid fund and place the plan upon a permanent footing.

You deserve our thanks for so fine an instance of constructive aid to the profession of this state. For one, I appreciate it, and am more than willing to do my full share and to throw a flower *ante-mortem*. The profession as a whole, here as in other places, is quite apt to carp and bicker when it comes down to basic matters of vital importance, especially if along new lines, or calling for breadth of vision; and more than willing to "let George do it"—and cuss him afterward, as a rule, because he tried to do it!

Well, perhaps self-gratification at a good end achieved is enough recompense, and that often is about all that is of a pleasant nature coming to a man or group of medical men, plugging away on state medicine for the good of all of us. No?

As perhaps you know, I have done my full share as the working donkey in another state in years gone by, and the present Practice Act and State Board of Examiners (as well as a bang-up good State Society) are to-day left in Idaho as a mark to the hard pioneer personal efforts of your humble servant. I say so, with all pride and truth, but just the same, it was quite a thankless task on the whole.

For personal reasons as above, I well know some of your official troubles; I am well able to see where you are winning out to the benefit of the rank and file, and so I say—more power to ye!

CULTIVATION OF VACANT LOTS.

"Perhaps one of the most creditable sociologic, as well as philanthropic and economic ventures in active and successful operation associated with Philadelphia, is that known under the corporate title of the Philadelphia Vacant Lots Cultivation Association.

"Idle land, such as is represented by vacant lots here, there, and everywhere held for speculative purposes, is loaned to the Association for cultivation by the ordinary well-known agricultural methods. It is then divided into gardens about one-sixth of an acre in size, and these gardens are assigned to families that have applied for them. These families are necessarily poor and consequently have no capital. Fertilizer and sufficient good seed are furnished to insure a good start to the gardeners, and the most improved methods of gardening are shown."

The above extract, taken from the *Pennsylvania Medical Journal*, June, 1916, p. 722, is convincing evidence of the fact that Philadelphia's vacant lots are serving a useful purpose: (1) Their cultivation rids the city of many an eye-sore. (2) They afford opportunity for infusing health and happiness into the members of a poor family of limited opportunities. Many a poor, incipient tuberculous individual is thus provided with a garden wherein he and his family can have the fresh air together without breaking up the home, or depriving the family of even a part of its income.

In 1915, 671 families took advantage of the Association's offers, and there is a big waiting list!

But in this cultivation of vacant lots, Philadelphia is no doubt doing a great deal more than the Association itself realizes. It surely must be a tremendous relief to Philadelphia's hay-fever sufferers to be able to go about their business or pleasure without being inconvenienced by the growth of noxious weeds which usually flourish in vacant lots. For while many persons may consider hay-fever a subject for joking, it is no joke with the poor victim, who for several months each year is obliged to go about with itching, running eyes, and itching, running, reddened and sneezing nasal appendage. Formerly the sufferer from hay-fever, rose-cold, hay-asthma, etc., was looked upon as one member of the great neurotic family, for did not the medical profession in the past always label diseases it did not understand, as neurotic—at least until such time as it could put them down as rheumatic or due to perverted metabolism?

But at last, the hay-fever sufferer's stigma has been removed; he is only a poor unfortunate anaphylactic. And there is nothing easier than to destroy the source of at least a portion of his tormentors, such as certain weeds and grasses. To be sure, some sufferers are susceptible to rose pollen or to the pollen of certain trees, but these are a very small minority.

On June 30, 1915, the Board of Health of the City of New York adopted the following as Section 221 of its Sanitary Code:

"Growth of Poison Ivy and Rag Weed Prohibited.—No person owning, occupying, or having charge of any lot or premises in the City of New York shall cause, suffer, or allow poison ivy, rag weed, or other poisonous weed to grow therein or thereon in such manner that any part of such ivy, rag weed, or other poisonous weed shall extend upon, overhang, or border upon any public place, or allow the seed, pollen, or other poisonous particles or emanations therefrom to be carried through the air into any public place."

The City of New Orleans has recently adopted an ordinance, primarily for the relief of hay-fever sufferers. It provides that the tenant or owner of occupied or unoccupied premises, lot or other area, shall not permit weeds or grass over two feet in height on such premises, or over one foot in height on the sidewalk abutting such premises.

In California could we not do as much? Why not form an association for the cultivation of vaacnt lots? The Philadelphia experience shows how cheaply the plan can be worked out. The oil companies throughout the State have certainly done something toward improving our vacant lots—for yes, we do prefer a gas and oil station to a lot of weeds. A few San Francisco downtown apartment houses have cultivated adjacent lots. We believe it would require but very little encouragement to start a state-wide movement along these lines.

And in the meantime, let our Boards of Health adopt, and please, also enforce, an ordinance similar to the New Orleans one. RENÉ BINE.

GEORGE L. PAINTER, M. D.

On July 22, 1916, Dr. George L. Painter, one of the best known men in our Society, was killed whilst participating in the Preparedness Parade in San Francisco.

Dr. Painter was born in Richmond, Virginia, July 10, 1871, and received his degree from the University of California in 1896. He leaves a widow and daughter.

Dr. Painter was a member of the old First Regiment of California Volunteers. He had answered the call of his country, and in his quiet and unassuming way had entered the Army of the Philippines as an hospital steward, though he was a qualified physician. He fulfilled his duties silently, without bombast and with thoroughness. He sickened under the strain of the work, and this very sickness brought him to the attention of his superior officers, who then realized, from personal contact, what kind of a man he was, and straightway recommended him for a commission in the Volunteer Service.

At the time of the fire of 1906, Dr. Painter was one of those who for over seven months devoted his entire energies to the work of relief, and during those trying days he acted as Camp Commander of one of the largest relief camps in the city. Thousands of people here learned to appreciate and love him.

His gentle manner, his positive integrity, and his unceasing efforts to oblige, won the friendship and strong liking of all who met him.

Dr. Painter's position in radiology was so well known to the profession as to require no comment. His unusual modesty alone prevented his frequent appearance before our Society. At the time of his death he was the President of the Pacific Coast Roentgen Ray Society.

His profession, his family and his garden filled his life. Silently and unassumingly he did his work, and "his highly trained austerity was such that self-denial never cost him much."

ORIGINAL ARTICLES

THE VALUE OF FUCHSIN IN UROLOGY.*

By VICTOR G. VECKI, M. D., San Francisco.

It is an acknowledged fact that gonorrhea, when giving any subjective or objective symptoms, has ceased to be a surface inflammation and de facto is an infection of the submucous tissues.

It is also an indisputable fact that the great majority of gonorrheal infections become chronic and that urology so far must confess its helplessness in the treatment of some sequelae of this greatly despised and, notwithstanding our advanced knowledge, still greatly underrated disease.

The demand for a chemical germicide possessing the power to penetrate the tissues and destroy the gonococci entrenched beneath the surface of the mucous membrane, without at the same time injuring the mucosa itself, was before us the many years, since in the early seventies of the last century Sigmund devised the urethral syringe and started the local treatment of the gonorrheal infection.

Since then almost everything therapeutically imaginable was tried in the urethras of the many millions of unfortunate victims. Remedies came and went, reputations were made and lost, and fortunes were amassed by manufacturers only, of course,—but the ideal germicide is still being sought for.

While I am not ready to assert that fuchsin is this ideal in every respect, my experience has taught me that it will do more and better in the urethra and in the bladder than any other remedy I know.

Fuchsin (fuchsine) or magenta anilin red is a coal-tar product, appearing in the form of dark green crystals, but deep-red in solution.

When Dr. Stabel of Redding, in 1914, reported to me the excellent results obtained with a fuchsin solution in a case of tuberculosis of the bladder I cystoscoped for him previously, it occurred to me at once that most germs are fuchsinophil, and that fuchsin therefore must have great possibilities. At first I tried it cautiously in various mild and chronic ailments; gradually the use was extended to tedious, painful and acute inflammatory conditions. Results were invariably good, the reactions mild, the pain inflicted upon the patients hardly noticeable, never protracted, always negligable; a second application never dreaded. Gonococci, colli bacilli and other pathogenic germs disappear rapidly from the urethra and bladder, consequently most discharges cease after a few applications: of course, organic changes commonly found in the

* Read before the annual meeting of the California State Medical Society, Fresno, Cal., April 20th, 1916.

urethra and bladder must be treated by the usual methods.

Special care must be taken in the preparing of the solutions. Undissolved particles of fuchsin cause very disagreeable symptoms in the urethra and more so in the bladder. Only the best brands of medicinal fuchsin should be used. Isorubin, also called new-fuchsin (neu-fuchsin), being easily dissolved in water and free from arsenic is probably the best of all preparations.

At my office three kinds of solutions are always on hand. For the 1% solution 10 grammes of fuchsin are placed into a mortar and crushed, then 20 grammes of absolute alcohol are added, the mass carefully stirred, and after 15 minutes 980 grammes of distilled water added to the solution. The half, and the quarter per cent. solutions are prepared in the same way with proportionately smaller quantities of fuchsin and alcohol. As an excess of precaution all solutions are filtered immediately before being used, and it is hardly necessary to emphasize that everything must be done under strictly aseptic conditions.

When using fuchsin good care must be taken to do it just right; otherwise the operator, the patient and the whole office will present a sorry sight. When I began to use it there was some mutiny amongst the office help, and at times I felt discouraged. At present it occurs only rarely that a drop is spilled, though as a precaution the wall opposite to the side on which the patient stands is protected by white oilcloth from which eventual fuchsin-stains can readily be removed.

Many years of experience have taught me that no local treatment in the urethra or bladder should be given unless the patient had his intestinal tract thoroughly cleaned out. The patient, before being given a fuchsin treatment, therefore, is instructed to take a sufficient dose of any good saline laxative. Whenever the prostate and the seminal vesicles are involved they must be mildly but thoroughly massaged, then the patient is ordered to empty his bladder, the urethra is irrigated with warm sterile water, and then a two-ounce, all glass syringe is filled with the fuchsin solution of desired strength, a soft rubber olive-shaped tip attached to it, and the contents injected into the patient's bladder.

It is best to grasp the glans penis immediately below the sulcus glandis with the left hand and press the tip of the syringe with the right hand into the meatus. Both hands acting together, the meatus is tightly occluded, and the contents can easily be injected. Whoever has any experience with the Janet syringe will easily avoid undue force and subsequent unnecessary pain and eventual injury to the urethra.

The effect of the intravesical injection of fuchsin is increased when the bladder is emptied at once, which is always possible, though most patients at first claim it cannot be done.

The patient's clothes must be protected during the whole procedure, a cotton pad wrapped loosely around the penis after the bladder is voided, and the patient must be told that his urine will be stained red for at least 12 hours after the treatment, because some impressionable persons become easily frightened, thinking they are passing blood.

In acute gonorrhea my experience with fuchsin is rather limited. Unfortunately acute gonorrhea appears at the urologist's office comparatively seldom. Most people still think that any one is capable of giving advice for such an insignificant trouble, and expert help is sought, as a rule only, when disagreeable and stubborn complications teach the bitter lesson.

In the few cases of acute gonorrhea treated with fuchsin the results were most remarkable. After the presence of the gonococcus was microscopically established the patient was ordered to void his bladder, the meatus cleaned, a half-ounce all-glass urethral syringe armed with a rubber tip filled with sterile, warm water, the urethra flushed; then the syringe filled with a quarter per cent. solution of fuchsin, and this solution injected into the urethra. It is not necessary to retain the solution in the urethra more than a few seconds; it sticks to the mucous membrane all right.

That fuchsin really penetrates into the deeper layers of the mucous membrane can easily be ascertained in chronic cases permitting an urethro- or cystoscopic examination. There is also no doubt in my mind, that whenever an intravesical injection with a hand-syringe is made the prostatic gland previously being thoroughly emptied by proper massaging, the fuchsin solution finds its way into the ejaculatory ducts and probably beyond them. So late as 48 hours after such a treatment the massaging of the prostatic gland will yield a fuchsin-stained secretion, and patients have repeatedly reported uniformly fuchsin-stained nocturnal seminal losses.

In acute urethritis the fuchsin injections should be made every three days once, gradually increasing the strength of the solution used. On the intervening days the urethra should be irrigated with warm solutions of quinine, or some other mild antiseptic solution. Discharges remaining after the pathogenic germs have disappeared yield very easily to astringent but mild injections.

In chronic inflammations of the posterior urethra, in chronic prostatitis, and the various forms of cystitis, the fuchsin treatments are best given once a week or once in ten days, and never before all traces of the previous application have disappeared.

The patient should not be discharged as cured until frequently repeated examinations have shown absence of pus and bacteria, and until all subjective symptoms have disappeared. It is advisable to instruct the patients to present themselves once a month for examination three or four times in succession, even after a cure seems to be perfect.

I shall report in the near future on the behavior of fuchsin in the kidney pelvis.

INDUSTRIAL HERNIA.

By WM. B. SMITH, M. D., Randsburg.

Report of a recent decision by the Industrial Accident Commission broadening the definition.

The working definition of industrial, or traumatic, hernia laid down by the Industrial Accident Commission has been in brief this—(quoted from a letter to the author from them in reference to a case): "The rupture must occur at once following an unexpected blow, fall, or strain greater than the individual meets in the regular run of his occupation. The production of the rupture must be accompanied by pain that disables the patient at once and continuously, and makes immediate recourse to the surgeon imperative. The patient must furthermore furnish clear evidence of non-existence of hernia previous to the alleged accident." This definition has been evolved on the premise that true accidental, or traumatic, herniæ are exceedingly rare, and that the alleged accident is usually the occasion, and not the cause of the rupture. Therefore insurance carriers have felt that every hernia case is a border line one, with considerable expense involved in coverage, and a probable responsibility traceable to congenital weakness; therefore they have always insisted on a close correspondence to the above definition to assume the expense of operation and care.

Recently there came to my hand from a firm whose accident work I had been carrying, a case of left oblique inguinal hernia in one of their employees. This had been bothering him rather constantly for three weeks, and had gradually been coming down over a period of three months under the stress and strain of the heavy lifting of his regular work as a truck deliveryman of white lead and other coloring matter. He had first noticed a lump in the left groin three months previously when delivering a three-ton load in one hundred pound kegs. The lump was painful at the time of appearance but went away at night, occasionally reappearing when straining or lifting heavily, but he could always push it back and it was only necessary for him to hold his hand over the spot for a while to secure relief. He was, of course, suspicious that he was ruptured, but he was fearful of losing his job and was sure it would go away in time, so he did not report it to his employer, nor did he ever seek aid during this time. He claimed not to have worn a truss, and a close examination failed to show any truss marks. On the day before coming to me he had attempted to lift an eight hundred pound barrel of white lead with his helper. He claimed to have felt something tear loose in his groin with such pain that he was compelled to sit down for a while and could do no more lifting that day. He rode on the truck, however, the rest of the day and attempted to go to work the next morning, but the painful lump in his groin and a general feeling of weakness caused him to report the condition to his foreman, and he was then sent to me for examination and treatment.

The above history was elicited with clear evidence of non-existence of hernia before entering the employ of this firm, and his previous work had never called for any such lifting as came in the day's work for this paint firm. Detailed examination bore out the history in every particular and I felt that the lad's rupture was really caused by his work, and in another line of work not requiring heavy lifting, the natural barriers, even in a congenitally patent ring, would have been sufficient to prevent hernia.

Operation was advised and accepted by the patient with the understanding that he should assume the costs if the insurance company refused coverage. The case was reported to the firm's liability carrier, in this instance the State Compensation Insurance Fund, and the patient was operated two days later without waiting for a decision by the medical department of the fund. A careful dissection of the operative field bore out the details of the case history, contents of the sac had dropped back into the abdomen, the sac was about four inches long, was not thickened, was bound to the cord by light adhesions in its outer two-thirds, and showed a very wide base free from adhesions. Some evidence of recent traumatism was observed in the inner muscle border of the internal ring. We believed the findings showed a comparatively recent sac covering the history of three months' trouble, with a very recent accession in the hernial mass as a result of his heavy lifting, as evidenced by the wide base free from adhesions to the cord and traumatism to the muscle fibres of the borders of the internal ring. An Andrew's modification of the typical Bassini technic was used, perfect healing resulted, and complete cure has followed so far as the history goes to date.

Two days after operation a curt note from the officials of the state fund informed me that I might submit reports in the case, but from my description of it their decision was against its being a true traumatic hernia within the meaning of the law, and therefore not covered by the fund. Furthermore I was requested to delay operation in future cases of the sort until authorized to go ahead by the medical department. The above definition was again called to my notice.

The patient was given the usual two weeks in

bed in the hospital, one week in bed at home, and three weeks additional freedom from work. The boy was then discharged as cured. A final detailed report was submitted to the state fund with my bill for $76.50, which included the assistant's fee of $10.00, and the anesthetic bill of $5.00. Later at the hearing of the case before the commission, the attorney for the fund stated that this bill was considered excessive. A friendly discussion, entirely outside the record, showed that my bill was entirely according to the fee schedule, but must have therefore covered an excessive number of post-operative calls. My statement that the case was a private one until assumed by the insurance carrier was received in good part and the bill recorded unchanged.

Soon after my final report to the state fund a decision by the adjuster came back refusing to cover the case on the grounds that it was not an accidental hernia as defined by the law, and requesting me to look to the patient for remuneration. A prompt hearing was asked by the patient and granted by the Los Angeles Department of the Industrial Accident Commission. Details of the case were submitted and sworn evidence produced to show that the boy had been free from hernia under ordinary stress of previous jobs, and that the gradual development of a left oblique inguinal hernia did come over a period of three months as the result of the heavy lifting in the course of the work he was then doing. The record was filed for later action by the Industrial Accident Commission.

After two months I wrote to the medical department of the fund asking for a report on the final disposal of the case, and was informed a third time that the state fund had dismissed it. I was agreeably surprised two weeks later to open one of their long envelopes and extract a wide green check for $76.50 covering in full my services to this boy. A prompt letter from my happy patient informed me that he had received a check covering full compensation for his period of disability. In other words we may now broaden the definition of industrial hernia to cover all cases that can truly be shown to have resulted from and during the patient's occupation.

I am reporting this case because the conclusions to be drawn from it are of interest to the whole medical profession. First it demonstrates again the absolute impartiality of the commission, and that the state fund takes its chances in every decision along with every private company. Second the case shows the need, as an economic business principle, of complete physical examination of every man covered by the liability act, to discover existing pathology and congenital weakness, and then to adequately guard against disability in each case found to be abnormal. I believe that this broadening definition of industrial hernia results from the humanitarian desire of the interpreters of the law to make the effects of the act truly corrective in their application to industrial disabilities, whether in the nature of accidents or industrial diseases.

DIAGNOSIS AND TREATMENT OF POLIOMYELITIS IN THE PRE-PARALYTIC STAGE.

By JOHN ADAMS COLLIVER, A. B., M. D., Los Angeles.

"Infantile Paralysis" is one of our most ancient and common diseases of children, yet without paralysis a diagnosis has been practically impossible. The whole clinical picture of the preparalytic stage is that of infection or meningitis. When the symptoms are properly coordinated it is only then merely suggestive of poliomyelitis, and even with lumbar puncture there is some degree of doubt. During an epidemic, or when one is threatened, it is always well, however, to keep the early symptoms constantly in mind. The early time is the best time, and I believe the only one in which to begin successful treatment.

As a rule the first symptom, and often at the time overlooked, is a change in the disposition of the child, manifested either by marked irritability or indisposition to play. This irritability may be in the form of crying in the night, starting in the sleep, or crying spells without apparent cause during the day. This may be followed later by drowsiness; many times unaccountable vomiting, present alone or associated with constipation or diarrhoea. In the majority of my cases, however, during the preparalytic stage, the bowels have been loose with a tendency to tympanitis.

Practically all cases have more or less fever and loss of appetite, with intestinal disturbances, as mentioned above.

The nervous symptoms are characteristic of meningitis. The irritability becomes more pronounced and either proceeds to hypersensitiveness or drowsiness. The reflexes are more active, later somewhat sluggish, and finally entirely lost. Occasionally the exaggeration and later the absence of a knee jerk or abdominal reflex is the only suggestive sign of approaching paralysis. There is often difficulty in cerebration. The gait is many times changed. The skin becomes extremely hypersensitive so that the touch is almost painful. The child also often becomes hypersensitive to sounds. The back is not so flexible, and sitting up in bed is done with difficulty. The neck becomes somewhat stiff so that it is difficult to get the chin on the chest. Later the stiffness increases and may even go to retraction before the appearance of paralysis.

There is localized sweating of the hands, head, neck, and forehead. This is no doubt due to disturbance of the sweat centers or loss of the vasomotor control. This sweating is one of the most important early symptoms.

According to most authors, pain either in the head or limbs is a common and almost constant symptom, but it has not been my experience to find this so trustworthy. The common belief among the laity and many of the profession that "Infantile Paralysis" is preceded by pain causes parents in their great anxiety and fear of the disease to suggest this symptom. This, considered with the fact that the skin is hypersensitive, makes

the report of such pain so vague and indefinite that it has caused me to practically disregard it especially among young children. If a child is old enough, however, it may complain of genuine headache or aching limbs, but it is still my impression that this symptom is exaggerated by suggestion.

In many children the symptoms above mentioned have either been overlooked or absent, and the first noticeable sign was lack of coordination on the part of the child. This is manifested by an inability to hold things in the hand, falling easily, knocking things over at the table, spilling water or milk in attempting to drink from the cup, difficulty in handling or holding objects, etc. These are all manifestations of changes in coordination.

The above symptoms are recognized by the best authorities as being characteristic of the early stages of poliomyelitis. There is none among these which is absolutely characteristic of the preparalytic stage.

During the epidemic of 1913 in Los Angeles I made a few hundred observations of a symptom in sixteen cases which seemed absolutely characteristic of this preparalytic stage. The symptom has been of great value to me, and I am now submitting it to you to test its merits and to solicit criticisms and case reports.

My symptom was first described in the *American Medical Journal,* March 15, 1913, and afterwards published in full in the California State Medical JOURNAL in November, 1913.

NEW PREPARALYTIC SYMPTOM.

The symptom referred to is a peculiar twitching, tremulous or convulsive movement of certain groups of muscles lasting from a few seconds to less than a minute. The amplitude of vibration is greater than a tremor, not so constant and long as a convulsion, and more regular than mere twitching, yet it has some elements of all these. It usually affects a part or whole of one or more limbs, the face or jaw, but it may sometimes affect the whole body. This symptom appears from twelve hours to three days before paralysis—usually about forty-eight hours.

It may easily be overlooked in the beginning, as it usually lasts less than a second, and unless the patient is disturbed does not recur oftener than every hour or so. Later the duration of the spells lengthens to a few seconds, recurring also at shorter intervals.

This condition is often accompanied in infants by a peculiar cry similar to the hydrocephalic. At times there is a slight convulsive movement, during which time the child is apparently unconscious with eyes set for a few seconds, and then it apparently becomes perfectly normal again. This brief unconsciousness may also occur without noticeable convulsive movements. It acts thus somethings like a petit mal. I have observed it as a twitching of the lips with tongue running in and out and a working of jaw, preceding bulbar cases.

The phenomenon resembles that found in light cases of strychnine poisoning except that the tetanic contractions are not general and do not last for so long a time. It usually involves a set of muscles with one or more of the counter muscles not affected. There is also a similar hypersensitiveness of the skin. The least stimulation of the skin is followed by slight convulsive movements with rigidity of the arms, fingers separated and wrist flexed. When the patient turns in bed, through either an external stimulus or an effort to coordinate, the movements are quick and jerky, accompanied usually with slight convulsive movements of the limbs. The least noise produces in certain cases short series of convulsive movements similar to those in strychnine poisoning, only not so general.

It is not unreasonable to suppose that the presence of the virus of poliomyelitis may bring about effects similar to those of chorea and tetany. A local chemical or other irritation of the nervous centers is produced with subsequent fatigue and later recuperation, resulting in the peculiar motor phenomenon which I have described as a preparalytic symptom.

THEORY OF NEW SYMPTOM.

According to the best authorities (Flexner, Lewis, Draper, Peabody and others) during the early stage the spinal fluid contains great quantities of the virus which disappear more or less as soon as paralysis sets in. With this there is an increase in spinal pressure which throws the ganglia and cells into a highly excited state. Some areas are attacked more than others, and we have a series of explosive contractions followed by rest similar to the artificial chemical excitation with fatigue manifested in a muscle-nerve preparation. This accounts for the local tremulous, twitching, convulsive petit mal phenomena.

It will be remembered that the virus attacks not only the nerve tissue but also the vascular system. According to Peabody, Draper, and Dochez, there is a cellular exudate surrounding the vessels and pressing on the lumen. Edema with or without hemorrhages, large and small, into the cord is not uncommon. The blood supply in the cord is horizontal, while the nerve supply to a group of muscles is not all derived from the same segment. The cord may be affected in some segments while not in others. This would account for the peculiar distribution and lack of coordination. The results of this condition are always noticeable in convalescence, when children have had to learn to walk and to feed themselves again, and others to learn again to talk.

The only reference found to this symptom in literature is made by Wickman, Zappert and Wilbur. Wickman observed one phase of it, and but once in his many cases, while both Zappert and Wilbur observed only the muscular twitching in the limbs. I have not worked out to my satisfaction the relation of the local symptom to the paralysis.

TREATMENT.

The most consistent and efficient treatment must be begun before paralysis appears. Therefore, an

early diagnosis is indispensable. It has been proven that during the early stage of poliomyelitis the spinal fluid contains the largest amount of virus (Flexner). In addition to this the fluid is under increased pressure. I have observed the fluid as high as 210 m.m. This produces the well known classic pressure symptoms. These symptoms can be more or less relieved by lumbar punctures. This procedure has an added value in that it dilutes the virus.

In addition to this, the early prescribing of large doses of Hexamethylendiamin (urotropin) is indicated. It is indicated because this drug is non-toxic, and is one of our best germicides. During an epidemic it should be started at the first sign of irritability, change in disposition or coordination, and at all times upon first indication of my symptom. Better make a mistake than wait too long. No harm can be done. Evidence of this drug appears in the spinal fluid shortly after its administration (Cushing and Crowe). It is capable of lengthening the stage of incubation in monkeys previously inoculated, and in some instances of actually preventing paralysis (Flexner and Clark).

The lumbar puncture dilutes and eliminates to some extent the virus, while the drug tends to destroy, or at least inhibit the growth of the organism in the spinal fluid. These two procedures in conjunction I believe are the best treatment we have to-day. Cases so treated in my experience were the only ones that have recovered.

Epinephrin, first used by Clark in 1912, has again been used in the present New York epidemic, but with no constant degree of success. There is no report of its administration in the preparalytic stage.

The treatment which gives greatest promise of being specific—the serum—whether of convalescent or the immunized, will certainly be more effective, the earlier begun.

It is thus very evident that if you expect to effect a cure you must make an early diagnosis and begin treatment before paralysis appears.

THE REMOVAL OF FOREIGN BODIES FROM THE ESOPHAGUS AND RESPIRATORY TRACT.*

By H. B. GRAHAM, M. D., San Francisco.
Assistant Clinical Professor of Surgery, Stanford Clinic Medical School.

I have had fourteen cases of foreign bodies removed by means of the esophagoscope or bronchoscope, four from the respiratory tract and the rest from the esophagus. The number is not large when compared with the 388 which Jackson had done up to 1914, but our field is small and we must be content to learn from a smaller material.

The problems involved were varied and instructive, and demonstrated above all other things that the crux in this, more than in all other surgery, is preparedness. One is fascinated when reading Dr. Jackson's book on the subject, by the apparent smoothness with which everything goes, but one cannot be surprised when he notes the profound attention that has been lavished on the smallest detail of the subject. Jackson realizes that the successful endoscopist must not only be a surgeon but a mechanic, with a penchant for infinite pains, and it is this element that has permitted him to say that in 3000 endoscopies neither he nor Dr. Patterson has ever failed for want of a light. Anyone who has done this work will realize fully what this means.

Our armamentarium consists of a Bruning and a Kahler set of bronchoscopes, esophagoscopes and laryngeal spatulae, and a Killian hanging laryngoscope, together with the necessary forceps, sponge holders, suction apparatus, etc. I have never worked with the distally lighted instrument such as Jackson uses.

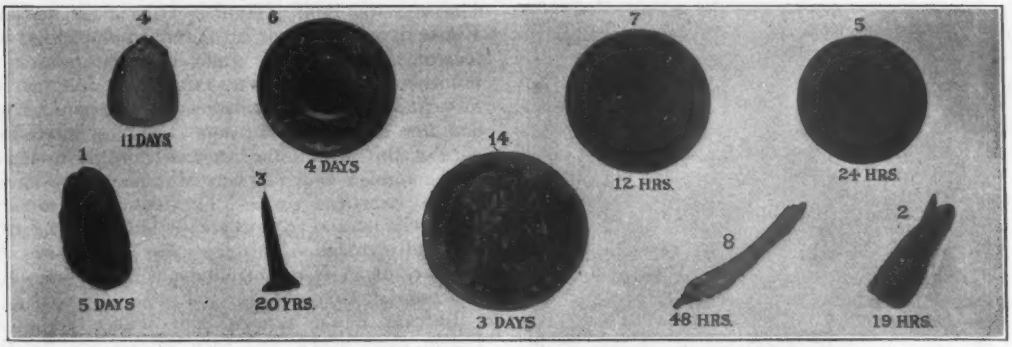
The expense connected with this work and the small income derived therefrom lead us to feel that each large center of population should have a complete outfit, provided by the State or University, which should be in the hands of a paid bronchoscopist. Most cases could be transported to this center, and at least one man in the community would be ready to take care of this emergency work. A large proportion of deaths has occurred, not from the simple presence of the foreign body, but from unsuccessful efforts at extraction, and a goodly number of these could have been avoided by a better technic. This can only come through experience, and experience only through focusing the work.

The anesthesia in my cases has been general or local, according to the case. I admire that dexterity which admits of no anesthesia, but consider that for those of us who have not been able to acquire it, there is greater safety for the patient in either the quietude of a deep general anesthesia or a thorough cocainization. I learned early that having introduced the instrument into the bronchus under general anesthesia, a light anesthetic could be continued as long as there was not much motion in the bronchoscope, so that a comparatively long sitting would be accomplished under very little ether if care was used. All adult cases have been done under local anesthesia.

The sitting position was used for local anesthesia, as my training was in Vienna where that position was universally used. The Boyce position seems the most logical and will be adopted in future when local conditions will permit. In this position, the patient is on his back on a table, with the neck supported well forward by the assistant's right arm, and the head supported by the assistant's left hand. The assistant sits at the left of the head of the table, his left elbow resting on his left knee. This gives the greatest amount of freedom in handling the patient, the greatest control of the patient, and utilizes gravity to help in the extraction of the foreign body.

The marvelous strides made by bronchoscopy are shown by Jackson, who states that von Eichen's list of 300 cases occurring up to 1909 gave 13.1% deaths. Kahler's list of 291 cases occurring in 1909-10 gives 9.6% deaths. Jackson's list of 171 American cases gives 5.3% deaths.

* Read before the Forty-Fifth Annual Meeting of the Medical Society of the State of California, Fresno, April, 1916.



Name.	Age	Foreign body	Time of Retention	Location	Tube	Anesthetic	Forceps	Result	Time	Route	Remarks.
1 J. Bush	10	Pine nut	5 days	Right inferior Lobe Bronchus	8-10	Ether	Hook	Extraction Cure	3 hrs—2 sittings	Tracheotomy wound	First case undertaken and although the nut was easily accessible it was not dislodged per orally. X-ray did not show nut.
2 Van Noate	12	Metal whistle	19 hrs.	"	10	Local	Plain	"	1 min.	Femral	
3 Rigney	48	Tack	20 yrs.	"	"	"	"	"	10 min.	"	Much secretion removed by suction in erect position delayed removal. Tack lay free in pus filled bronchus which did not show much change.
4 Anderson	2 yrs. 9 mos.	Corn	11 days	Trachea sub glottic	Killian Spatula	Ether	"	"	"	"	Difficulty in light arrangement made tube passing impossible. The kernel evidently became alternately impacted in a bronchus and free in trachea. X-ray did not show corn.
5 Sadler	3	Cent piece	24 hrs.	Esophagus below cricopharyngus	8	"	"	"	2 min.	"	
6 Rupprecht	5	Metal toy dish	4 days	"	"	"	"	"	"	"	
7	8	Telephone slug	12 hrs.	"	"	Local	Plain	"	"	"	
8 Klein	40	Chicken bone	48 hrs.	"	10	"	"	"	Two attempts. 2d after an X-ray. 5 min.	"	In first attempt tube passed over bone which was curved and lay anteriorly in transverse position.
9 L	30	Chicken bone	24 hrs.	Esophagus at Hyatus	10	"	"	"	10 min.	"	Bone grasped at one end and pushed down; then other end grasped and bone removed.
10 11 12 13	Meat lodged in esophagus in cases of Carcinoma.										
14 A. B.	4	Bic piece	3 days	Esophagus below cricopharyngus	6	Ether	Double hook	"	5 min.	"	

For esophagoscopy for foreign bodies, we have in large clinics a mortality of 3%. Jackson in 206 cases had a mortality of 2%.

I was fortunate enough to have no deaths in my small list, and I only trust that I will not fall in with cases of foreign bodies in the periphery of the lung, or cases that have been roughly handled before being brought to the bronchoscopist, which two elements account for most deaths. All my cases made uneventful recoveries. My first case was done through a tracheotomy wound and lasted all told three hours, and still showed no ill after effects. These results are accomplished by gentleness in manipulation alone. There is grave danger in a prolonged sitting, but this is more than quadrupled by rough handling, as is amply proved by statistics. A bull in a china shop is a term that should never be applied to an endoscopist, for his shop contains Dresden china and it should be handled accordingly. The general practitioner should understand thoroughly that the removal of foreign bodies is a delicate undertaking, requiring a detailed knowledge of the anatomy of the special part involved, together with a perfect armamentarium, and technic acquired through practice; and that the more he tampers with the case the more difficult he makes the work for the endoscopist.

Bougies should not be passed in suspected cases. Efforts at removal should not be made by finger or gravity, lest trauma or impaction in the larynx occur, producing death before help can arrive.

X-rays should be taken by men who are accustomed to hunting for foreign bodies, and not by anyone who happens to have a machine. A negative plate does not mean that there is no foreign body, and a negative plate might delay placing the case in the hands of one who knows the treacherousness of all the branches connected with the work.

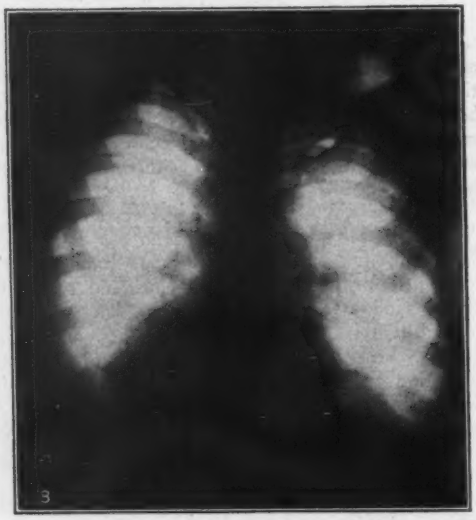
Points of special interest in the cases seen:

Case 1. Girl, age 10 years, who five days before had inspired a pine nut. This had lodged in the right inferior lobe of the bronchus and cast little or no shadow on the X-ray plate, on which account there was a delay in calling an endoscopist. The physical signs were those of a foreign body occluding the right lung and the nut was easily located with the bronchoscope. It was not so easily extracted, however, on account of the shape of the nut, the impaction, and the swelling of the mucous membranes. After a two hours' seance a tracheotomy wound was made, a larger and shorter tube used, and a hook, which had been made especially for the case, was introduced. After

X-Ray of Case of Number 2

several efforts the hook was carried beyond the nut and a successful issue was obtained. The patient made an uneventful recovery.

Case 3 is evidently the second longest sojourn of any foreign body which was removed by bronchoscopy. Jackson removed a collar button from an abscess below a fibrous occluding bronchus, in a man 46 years of age, which had remained in the lung 26 years. He had to excise the fibrous tissue before he could grasp the button. My patient was a man 46 years of age who had inspired a tack twenty years previous and had been treated ever since for tuberculosis. At 38 he had had pneumonia. At the time of inspiration of the tack, violent coughing had ensued and bright red blood was expectorated. In an hour there was more coughing and more blood. Since then there has been frequent hemoptysis, cough and pus, with marked night sweats. On June 12, 1915, the United States Public Health Service at the Panama-Pacific Exposition took an X-ray of the lungs and located the tack in the right lower bronchus. A bronchoscopy showed the tack lying free in the bronchus, and it was easily removed after much pus had been extracted by suction. The most interesting part of this case is the resistance of the bronchus to the foreign body. There was no abscess cavity and no cicatricial tissue. The bronchus was comparatively normal in appearance although the tack was badly eroded. This case clearly illustrates the necessity of an X-ray of all doubtful cases of lung affections.



X-Ray of Case of Number 3

In case 4, the foreign body was a kernel of Indian corn which had been eleven days in the trachea of a child nearly three years old. The kernel evidently became alternately impacted in a bronchus and then expelled into the trachea. At the time of the extraction it lay just below the vocal cords and was removed by a laryngeal spatula and plain forceps. In this case an X-ray showed no shadow.

Case 8 had a chicken bone in the esophagus behind the larynx, so placed that the tube passed over it into the esophagus and the bone was not discovered at the first sitting. An X-ray disclosed its presence and it was easily removed.

In case 9, the chicken bone was in the lower third of the esophagus and was grasped at one end, pushed downward, and removed by obtaining a fresh hold on the then superior end.

PERIODONTAL SEPTIC FOCI.*

By T. SYDNEY SMITH, D. D. S.

The subject of periodontal diseases (pyorrhea alveolaris) which we are to consider to-night is now recognized to be one which every medical as well as dental practitioner should thoroughly understand. At present, however, we will deal only with such phases of the subject as the diagnosis, etiology, and systemic effects of these diseases, with brief reference to the conditions which can be accepted as constituting a cure of them, and how this may be brought about. Even these phases will be treated merely from the general medical point of view.

Let us first consider some of the most important facts regarding the tissues which become involved in periodontal lesions in order to be better able to detect the incipient stages of these diseases in our own mouths as well as in those of our patients.

When normal, the supporting structures of the teeth are firmly attached to the entire surface of the cementum. In early life, while the teeth are erupting, the gums may cover a considerable portion of the crowns. They are not, however, vitally attached to the enamel. During this formative period the gums are slightly red. As the development of the teeth continues, the margins of the gums contract to a point which slightly overlaps the gingival margins of the enamel. Up to this point the contraction of the margins of the gums is a perfectly normal, physiological process,

* Read before the San Francisco County Medical Society, January 25, 1916.

but any further recession indicates some irritation or infection which should receive prompt attention. In adult life the margins of the gums, if normal, are thin and closely drawn around the gingival margins of the enamel, overlapping it slightly as has been stated. Such gums are uniformly pink, and do not bleed unless they are injured. The prevailing notion that red gums are healthy is not correct.

If the pericemental fibres are injured, or infected, the overlying tissues at once become red. Such an injury or infection may at first cause only a hyperemic or hypertrophied condition of these tissues, but if the infection is permitted to continue the pericemental fibres become detached from the cementum at that point, and form pockets of varying depths. These lesions may develop on one side of a root while the tissues on the other side remain almost normal. The pockets may extend from 12 to 14 m.m. beneath the margin of the gums. Usually the overlying tissues in these advanced cases have a bluish red color so that the presence of the pocket is easily detected, but occasionally they are pink, and the pocket can be detected only with an exploring instrument. In some cases the margins of the separated tissues become absorbed leaving portions of the roots of the teeth exposed. When the tissues become detached from the roots, the calcium salts which are held in solution in the blood escape from the broken vessels and are deposited on the surface of the cementum. Sometimes these calcic deposits form coarse, irregular nodules. In other cases they are so thin and hard, and so thoroughly embedded in the porous surface of the cementum that their presence is not easily detected. These serumal deposits must not be confused with the salivary deposits to be referred to later.

Periodontal diseases are so frequently met with that it is almost impossible to find an adult patient who has not at least the incipient stages of them around a few of his teeth. Proper care, however, will prevent this condition. Unfortunately the majority of people pay very little attention to the early stages of these diseases. Not infrequently one finds even medical and dental practitioners who have permitted their gums to bleed for years without paying any attention to it.

THE CAUSE OF PERIODONTAL DISEASES.

Much of this indifference towards these pathological conditions can be traced to the erroneous teachings of men who were supposed to be authorities on this subject. Several of these writers have persistently stated that the destruction of the supporting structures of the teeth is a normal, physiological process. Hopwell-Smith [1] recently wrote: "The teeth of dogs, cats, monkeys, and other animals, either in a domesticated environment or natura fera, become loose as time passes by, as a direct consequence of the absorption of their sockets —a physiological process. Man becomes more and more inclined to be edentulous as he advances in life, a part of the decadence of his vital powers."

Talbot [2] has also done much to spread this harmful theory. His statement is: "Man has two sets of teeth; the first is lost, and a second set takes its place. These in turn will be lost if he lives long enough. As soon as the alveolar process has obtained its growth (in degenerates it commences much earlier) interstitial gingivitis sets up, and there is a *gradual absorption* of the bone from the start. Nature is trying to shed the second set of teeth."

These teachings have been given wide publicity, and for a time almost paralyzed dental progress. Those who believed this theory felt no responsibility as they watched their patients' gums recede from year to year. At any rate they made no intelligent attempts to detect or prevent periodontal diseases.

Some investigators, observing that many systemic diseases are closely connected with periodontal lesions, and not understanding the results of bacterial invasion of the body from these lesions, concluded that periodontal diseases are mere local manifestations of graver systemic conditions. Their conclusions were apparently strengthened by the fact that they met with failure in their attempts at local treatment. These failures, however, were due to imperfect surgery and to the practice of introducing acids, germicides, and flour of pumice into the wounds. Some of these men worked out elaborate theories to show that periodontal diseases result from systemic conditions. Chief among these teachings were the uric acid diathesis, the faulty metabolism, and the auto-intoxication theories. For a time these theories were quite generally accepted, and the result was that they prevented the majority of dentists from atempting to give their patients the necessary surgical aid. As a consequence, many worthless remedies appeared as specifics for periodontal diseases.

At the present time investigators are almost unanimous in the opinion that periodontal diseases are the result of some pathogenic, microbic infection which begins in the gingival sulcus, and that there must first be a traumatic condition in this region to provide these organisms with the path of entry. There is still much difference of opinion, however, as to whether these traumatic conditions can be traced chiefly to local or to systemic causes. My own experience proves that even when systemic diseases are present, the periodontal tissues of the patient can be kept in a perfectly healthy condition by correct prophylactic care. Even if these tissues have become diseased and pyorrheal pockets have developed they can be rapidly and permanently cured by proper surgery as long as the teeth are vital.

I admit that certain systemic conditions such as mercurial salivation and lead poisoning produce an inflammatory condition of the gums. There is also much evidence to show that the precipitation of salivary calculus on the teeth is partly the result of metabolic disturbances. If it is permitted to accumulate it will irritate the gingivae and make them subject to infection. Thorough daily cleansing is sufficient, however, to prevent any injury from this source. It need scarcely be mentioned here that a lowered resistance of the body will affect the gingival tissues and make them more

easily infected, for this is equally true of other tissues.

Granting, then, that some of the systemic conditions mentioned sometimes do induce traumatism in the gingival tissues, yet in the great majority of cases, this condition is the result of purely local causes. Dental methods and teachings have contributed largely to these local causes. Many dentists have not been careful enough in their treatment of the supporting structures of the teeth. They have frequently injured the pericemental fibres, or broken down the septal tissues with ligatures, clamps, separators, and other devices, in their efforts to repair the crowns. Even rough margins of fillings, and the bands of artificial crowns were often left projecting into the gums. Although these mistakes are less frequent at the present time, yet harmful methods are still used by some prophylactic specialists. They use sticks and stiff, revolving brush-wheels to produce a polish on the crowns, which, to be of any value should extend underneath the gingivae to the attachment of the pericemental fibres. Then, as if the injuries they have inflicted were not sufficient, they instruct their patients to use dry, stiff, and frequently irregular-shaped brushes. I shall pass for your inspection one of these destructive devices. This particular one was designed by one of the leading pyorrhea specialists, and tremendous efforts are being made at present to induce dentists to advise its use. By testing the harshness of it with your fingers you will find that even the hands could not tolerate such a brush. The recent advice, however, that we should abandon the use of the tooth-brush is equally harmful. There is nothing which is more beneficial to healthy gums than lots of friction with a brush which has perfectly even, and very flexible bristles, especially if the stroke follows the same general direction as the food. That is, the upper teeth should be brushed upward and the lower teeth downward. I shall pass a brush of this description that you may compare it with the other, which is to be avoided.

PATHOGENIC MICRO-ORGANISMS WHICH MAY BE RESPONSIBLE FOR CAUSING PERIODONTAL DISEASES.

Microscopic examination of pyorrheal lesions shows that even in their incipient stages they contain several strains of pathogenic micro-organisms living symbiotically. This fact has led many investigators to study these organisms to determine, if possible, whether any of them could be shown to be the specific cause. Although several claims have been made that such an organism has been found, the fact remains that up to the present none of these claims have been substantiated. The most recent of these, and one which has been brought to the attention of the medical profession, is the claim that these lesions are caused by the protozoa, endameba buccalis. It has been known for some time that endamebae may be found in pyorrheal pockets but no special significance was attached to their presence until Barrett and Smith [2] published the results of their investigations in a paper entitled: "The Protozoa of the Mouth in Relation to Pyorrhea Alveolaris." This paper was read on July 1, 1914, at the annual meeting of the Pennsylvania State Dental Society. These men expressed the opinion that endamebae are the cause of pyorrheal lesions because they found these organisms in all of the forty-six cases they had then studied, and, because the appearance of the tissues improved when the endamebae were destroyed by the use of emetine hydrochloride. These findings were immediately announced throughout the civilized world through the medium of the Associated Press and the International Press Agency. The attention of the medical profession was directed to them in a more special way by an editorial which appeared in the New York Medical Journal, July 11th, 1914.

On September 14th, 1914, over two months after the scientific world knew about the work of Barrett and Smith, Bass and Johns [4] laid claim to a similar discovery in a paper read before the Orleans Parish Medical Society. Although admitting that Koch's postulates had not been satisfied, they made the statement: [5] "The specific cause of pyorrhea dentalis and alveolaris is endamebas." They also claimed that emetine hydrochloride will cure these diseases by destroying the endameba. These statements, although made at a time when they knew but little about the entire subject they essayed to present, have been thrust upon the medical profession quite universally, and have been commercialized successfully by the manufacturers of drugs.

After more than a year of additional study by many investigators we are forced to admit that very little is known about these protozoa which inhabit the mouth. We do not understand their life's cycle, or exact manner of reproduction, and are still uncertain about their toxicity and food supply. It would, therefore, be unscientific to say positively that they are or are not an etiological factor in periodontal diseases. But much evidence is accumulating to show that they are not the original invaders of the tissues.

Price [6] in his investigations for the Research Commission of the National Dental Association, found that endamebae could not be discovered during the winter months in the mouths of many patients who were suffering with advanced pyorrheal conditions, but that they appeared in great numbers during the spring months in these same mouths, even after these had been put into a clean and healthy condition. This endamebic development, however, did not cause a recurrence of either the pyorrheal conditions or their systemic effects. From this it would seem that at least certain species of endamebae are merely secondary, and harmless invaders of the lesions. Price [7] also found that the patients in whose mouths endamebae were found during the winter months, were using spring water instead of the regular city supply. We might conclude from this that these people got the endamebae from the spring water they were using, were it not for the fact that oral endomebae do not have contractile vacuoles like the free living amebas found in water. It is also difficult to explain why climatic conditions should

influence certain species of endamebae since the temperature of the mouth does not vary with the seasons of the year. Referring to these problems, Price [8] says: "We find that the species predominating may vary with the location and the time of the year, in the same mouth under certain conditions."

A study of the food supply of oral endamebae will assist in determining whether or not they are the original invaders of the tissues. Bass and Johns [9] state: "Their food is largely broken-down tissue and especially certain pus-cells."

Henrichi,[10] reporting the work accomplished by the Minnesota Division of the National Dental Research Commission, states that the food of endamebae consists entirely of bacteria and pus cells. This would indicate that it is necessary for pus-producing organisms first to invade the tissues in order to supply the endameba with the proper kind of food.

Chivero [11] believes that endameba may even be beneficial to the tissues. Summing up the results of his careful investigations he says: "The endameba has not a pathogenic action; on the contrary, as it feeds on bacteria, it is most probably an aid to the auto-disinfection of the mouth."

It is possible, however, that endamebae may be injurious to the tissues by acting either as a chemical or mechanical irritant. Bass and Johns [12] in their endeavors to prove the pathogenicity of endamebae, claim that they increase the infection by entering the tissues and dragging the bacteria in with them. This claim was originally made by Prowazek [13] regarding the endameba histolitica, but this does not seem plausible. The majority of investigators believe that oral endamebae do not enter the tissues. Henrichi [14] in his report says: "We have repeatedly cut sections of the gums from cases of pyorrhea where amoebae were present in the pus, and searched carefully for amoebae in the tissues. In no instance have they been found, and we must conclude that they do not invade the tissues, but remain in the superficial pus."

Even if some species of oral endamebae are capable of entering the tissues the endameba buccalis, specially mentioned by Bass and Johns, would seem to have the least ability to do so. They are sluggish in action, and their short, blunt pseudopods, which are hyaline in character, give them but little power of movement even in a clear field. Another species, however, the endameba kartulisi, is very motile. It will move rapidly across the stage, and if it encounters some debris, the refractile character of its ectoplasm gives it sufficient strength to cast this aside and proceed on its journey.

Bass and Johns [15] presented as their chief proof that endamebae are the cause of pyorrheal lesions, the claim which was originally made by Barrett and Smith [16] namely, that the tissues improve in appearance when the endameba have been destroyed by the use of emetine hydrochloride. In making this assertion they overlooked the fact that emetine hydrochloride has a bactericidal, as well as endamebacidal action, and that the improvement in the tissues is probably due to the destruction of other micro-organisms. Referring to this action of emetine hydrochloride, Price [17] says: "It is not established that its beneficial effects are, in part or whole, not due to its action on these other organisms rather than the endameba."

The extreme variations in the appearance of periodontal lesions, as well as the difference in the rapidity of their development, suggests very strongly that no one organism, or even group of organisms are always responsible for causing them. It is possible, however, that some one organism is the specific cause, and that the variations referred to are the result of others acting as secondary invaders. Some investigators think that the spirochaeta, treponema mucosum, discovered by Noguchi [18] may be responsible for causing pyorrheal conditions because they are found in the deepest portions of the lesions, are mucine-forming and produce the odors which are characteristic of pyorrheal diseases. It is doubtful, however, if they can always be found in shallow pockets during the incipient stages of these diseases, as they require anaerobic conditions to permit their development.

Although many different species of micro-organisms, such as streptococci, staphylococci, fusiform bacilli, and spirochaeta, are found in these lesions, perhaps none appear more constantly than the various strains of streptococci; and there seems to be no good reason why they could not produce these lesions if traumatic conditions are present to provide them with the path of entry.

SYSTEMIC EFFECTS OF PERIODONTAL SEPTIC FOCI.

It has been recognized for some time that periodontal diseases exert a harmful influence on the general health. This was formerly thought to be due to the absorption, and ingestion of the toxic products developed within the septic lesions. The real danger from these lesions became apparent, however, when the discovery was made that many of the serious, chronic diseases occurring throughout the body are caused by pathogenic micro-organisms which are carried by the blood stream from these and similar septic foci. The danger from periodontal septic foci became even more apparent when it was found that some of the organisms they contain possess facultative cultural properties, and also a variable pathogenic specificity, the streptococcus-pneumococcus group alone appear to be capable of producing a wide range of systemic diseases. Rosenow [19] has found that transmutation of this group readily occurs. By animal passage and cultural environment he has been able to change pneumococcus into streptococcus veridans, str. rheumaticus, str. hemolyticus, and str. mucosus. The conditions which bring about transmutation of these organisms appear to be such as variations in oxygen tension, salt concentration symbiosis and incavation. Periodontal septic foci, therefore, furnish exceptionally good conditions for producing such transmutation, and there is no other spot in the body from which they can more readily enter into the blood stream. It is difficult, however, to understand the various

factors which determine the elective localization of the bacteria after they enter the circulation, but evidence is accumulating to show that much of their pathogenic specificity may be acquired while they are developing within such foci as periodontal lesions.

Rosenow [20] as a result of his recent investigations, believes that the elective localization of bacteria may in part be due to the oxygen requirements they develop while within the original focus. If so, it is possible that the varying depths of pyorrheal pockets may force these organisms to live and develop under such different degrees of oxygen tension, even in the same mouth, that they acquire in this way some of the highly differentiated elective localization properties which they possess. This may explain why one strain of streptococcus veridans will attack the synovial membrane of a joint where there is but little blood supply, and consequently a low oxygen tension, while another strain will form a prolific vegetation on the endocardium and cardiac valves where they must live in a very high oxygen tension.

Rosenow's work [21] also shows that the degree of virulence plays a large part in causing the elective localization of bacteria. It would seem, therefore, that periodontal septic foci may be more dangerous to the body than many of the secondary foci which result from them, because their location must permit them to constantly receive new strains from outside sources. These new strains must naturally possess very extreme and varied degrees of virulence.

Clinical experience has also done much to prove that periodontal septic foci are the cause of many of the diseases which occur throughout the body. It has been found that the diseases which were formerly thought to be the cause of periodontal lesions are greatly improved and usually cured by the complete obliteration of oral septic foci.

THE TREATMENT OF PERIODONTAL DISEASES.

The dangers, then, which arise from periodontal septic foci would bring an exceedingly serious problem before us, were it not for the fact that the method for preventing and curing these foci has been found. For over twelve years I have been able to secure a vital reattachment of the separated tissues to the cementum of living teeth wherever the form of the roots would permit of perfect surgery. This reattachment of the tissues rapidly and permanently cures the pyorrheal pockets. It must be emphatically stated, however, that periodontal diseases are not cured unless the pyorrheal pockets have been completely obliterated, and that this can only be accomplished by the aid of perfect surgery. Antiseptics and endamebacides should not be employed because they cannot cure these lesions, and if they are used as an aid to surgery they impair the tissues and interfere with rapid healing. The reunion of these tissues is a biological process and is therefore dependent upon the same conditions which govern the reunion of separated tissues in other parts of the body. That is, tissues to be united must have exposed, living cells on each surface, and these surfaces must remain in undisturbed contact for sufficient time to permit the union to take place. Therefore, the separated tissues cannot possibly unite to the roots and obliterate the pyorrheal pockets unless all of the calculus is removed and in addition to this all of the involved cementum is scraped just enough to provide a surgically freshened, living surface. It is not possible, however, to always produce this freshened living surface where the narrow bifurcation of the roots make it difficult even to remove all of the calculus. Therefore such teeth may be relieved but not cured. It is also impossible to reunite the tissues to the roots of pulpless teeth, because the involved portions of cementum in these cases is dead, and living and dead tissues cannot unite.

Several writers apparently ignorant of these facts, have stated from time to time that they have found some specific agent which will cure pyorrheal lesions. The most recent of these claims are those put forth by Bass and Johns [22] regarding emetine hydrochloride, and by White and Wright [23] who claim that they have cured one hundred per cent. of the cases they have treated with succinimid of mercury.

Bass and Johns [24] so completely ignored the need of surgery, that they attached but little importace even to the removal of calculus. Referring to the removal of calculus from the roots they say: "There is a deep-set opinion held by the dental profession that it is important to scale or scrape this off to facilitate healing. This might be true if there was any hope that the destroyed peridental membrane would be regrown and again cover the root of the tooth where it formerly existed. We have not the slightest evidence, however, that such a thing can occur. Apparently, therefore, the only benefit that would result would be what results from cleanliness and removal of foreign material, which may in some instances be a source of irritation. However, if done properly, no harm should result."

Some of the leading dental writers who have undertaken to point out the errors in the teachings of Bass and Johns have made quite as serious mistakes themselves. They claim that the portion of cementum which has become involved in pyorrheal lesions is dead, and also that the pericementum, which becomes separated from it, is completely destroyed. For this reason they claim that neither emetine hydrochloride nor any other treatment can bring about a reunion of these tissues and obliterate the pockets. These mistaken teachings involve such important histological, physiological and pathological problems that they must be left to be considered in a subsequent paper. I will merely state at this time that cementum may receive nutrition from either the pericementum or the pulp, and, therefore, does not die as long as the pulp remains vital. It is not true that the separated portion of the pericementum is completely destroyed. When pathological conditions are permitted to continue the pericemental fibres become detached from the cementum and atrophic changes occur in them. In advanced cases a rup-

ture or even a series of ruptures may occur in the pericementum, but some of the fibres still remain and quickly reunite to the cementum if proper surgical assistance is given.

CONCLUSIONS.

1. Periodontal diseases are so common that we rarely find an adult person who has absolutely healthy gums. These diseases develop so insidiously, however, that their presence is usually not detected until they have reached an advanced stage.

2. Periodontal diseases apparently are the result of some pathogenic microbic infection which begins in the gingival sulcus; but these organisms require a traumatic condition to provide them with the path of entry. The traumatism is usually the result of purely local causes. Systemic conditions, however, may exert a slight contributory influence.

3. It has not yet been proven that any one organism is the specific cause of periodontal lesions; on the contrary, the appearance of the lesions suggests that they may be caused by different organisms.

4. Endamebae are usually found in periodontal lesions, but the majority of investigators believe that they are harmless, secondary invaders of the pockets.

5. Periodontal septic foci endanger the health of the body because they contain several strains of pathogenic organisms having highly differentiated elective localization properties, and the organisms can readily enter into the circulation from these foci.

6. Correct prophylactic care will always prevent periodontal diseases.

7. Periodontal diseases are not cured unless the pyorrheal pockets have been completely obliterated. It has been found that the separated tissues will form a vital reattachment to the roots of living teeth and obliterate these pockets if aided by proper surgery.

8. This reunion of the tissues cannot be brought about by antiseptic and endamebacidal agents, and if they are used as an aid to surgery they impair the tissues and prevent rapid healing.

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Discussion.

Dr. F. C. Pague: I appreciated Dr. Smith's paper very much indeed, for in his work he has tried to show you the result of instrumentation and faithful work, and that such work will cure pyorrhea. I might say, in connection with that, that in my own experience there are very few cases of pyorrhea that cannot be cured, and those exceptions are cases where probably one-half or two-thirds of the process supporting those roots is destroyed.

I might, if you will permit me, verify Dr. Smith's remarks regarding the statements of Drs. Bass and Johns. Most of you, I presume, during the meetings of the American Medical Association in San Francisco last June, had the pleasure of not only listening to their papers, but of seeing many of their slides. In my judgment, it is apparent that they rushed into print entirely too soon. Neither of them was a dentist. They were both young men with scientific experience, but nothing else. I had the pleasure of listening to a paper of Dr. Bass before the Alameda District Dental Society, and a more intelligent paper I have never heard read. I concluded that here was a man who had his writings not only at his finger tips, but at the tip of his tongue as well, with positive assurance as to the result of his findings. After finishing his paper, an opportunity was afforded for the discussion of it, and I asked Dr. Bass if with the use of emetin hydrochloride he could obtain a cure in pyorrhea without removing the irritants, and he said, "Well, I don't know that you could," and yet in his paper he had left the inference that such conditions could be cured by the introducing into the circulation of emetin hydrochloride without removing the irritants from the roots of the teeth.

In March or April of 1914, an eastern physician was on the Coast and was referred to me, as he expressed it, for relief from the bleeding of his gums. They not only bled when he brushed them, but also in eating, and often in the morning he would find blood upon the pillow. I made several appointments with him, kept two of them, and then was taken sick, and when I returned to my office there was not time to finish the work before the gentleman went East. Although a physician, his business is one that causes him to travel quite a good deal throughout the country, and in March or April of 1915, a year later, he was in Atlanta, and read in the American Medical Journal the published report of emetin hydrochloride by Drs. Bass and Johns. He went down to New Orleans and had a course of treatment. He had six injections in the arm at intervals of two days. The condition cleared up for three or four weeks. He was able to brush his teeth with hardly any sign of blood. But at the end of that time there was a recurrence. Dr. Bass provided him with emetin hydrochloride for other injections, and at the end of six weeks (he himself injected into his arm, I believe, at intervals of two days, six more ampoules) he was on his way to the Coast. At Los Angeles he went to a dentist because his

gums were then bleeding very badly, and the dentist referred him to me. He was here several weeks, and I went over every tooth in his mouth. In a letter from him eight months afterwards he said that all bleeding had stopped. The soreness in his teeth had disappeared. He was able to close them firmly and tightly, which he had not been able to do for several years.

I mention this because of Dr. Bass's assertion that emetin hydrochloride would cure these conditions, and here a man of the medical profession who believed in the representation of Dr. Bass, was so completely disappointed that he was dicouraged.

Dr. C. F. Welty: Pyorrhea alveolaris is a name given to a pathological condition, for which until a short time ago, there was no known cause. From what Dr. Smith says, I can logically infer that he, at least, with a great many others are of a different opinion. My notion is also at variance with Dr. Smith. My source of reasoning comes to me from infections observed elsewhere. It is perfectly logical to assume that in the act of mastication of food, a certain amount of traumatism is produced which may or may not lead to infections. By the use of the tooth-brush, I am confident traumatism is produced that may or may not lead to infections. By the use of unsterilized instruments by dentists, I am certain abrasions are produced. One must bear in mind that with traumatism and abrasions in a field that carries infectious micro-organisms at all times there will be an occasional infection that at least starts the condition we call pyorrhea alveolaris. I am of the opinion that with a perfectly clean mouth, this condition will not present itself. Furthermore, that in a given case of pyorrhea alveolaris (within the curative stage) all sources of infection removed and with a new granulation surface about the tooth, your case will be cured with one thorough treatment, provided the tonsils and adenoids are removed and the nose and ears are free from pus. To substantiate this, I will say that pus can be pressed from the tonsils of 60 per cent. of the adult population and that a large percentage of the balance will have such definite pathology of the tonsil that it can be diagnosed by an accurate inspection. Such conditions of the tonsils must be admitted and when we add other pus foci from the nose and ear, you can readily understand why it is more probable than any theory that has yet been presented. I would take great pleasure in verifying this by operating 20 or 30 cases that are considered amenable to treatment by the dentist. I maintain that they will recover more rapidly and their possibility of reinfection is much farther removed than when they continually carried so much infection about with them at all times.

Dr. H. McNaught: I would like to ask if it is true that the tooth-brush does produce infection of the gums?

Dr. J. T. Watkins: Were the subject under discussion other than what it is I should hesitate to inject myself into a discussion at a meeting of the eye, ear, nose and throat section; but I do not know but perhaps the teeth and their ailments and the remote effects of those ailments are every bit as interesting to your orthopedic surgeon as they are to one who specializes in the eye for example.

Dr. Sydney Smith has shown us very graphically what may be done to relieve alveolar infections which involve living teeth; but I should like very much to learn from the doctor what is to be done when pus pockets appear about the roots of dead teeth.

I am constantly seeing joint infections presented by persons who have pyorrhea and a number of whose teeth are known to be dead. Usually it has been my custom to send such a patient to his dentist with the request that he get the patient's mouth clean. I would like to have my ideas on this subject cleared up, so that I can send word that I want certain work done and rest assured in my own mind that if it is done properly at least a certain definite local result may be relied upon to follow—and possibly a remote one as well.

Let me illustrate from my own experience. Not long since I was called to see a lady of somewhat advanced years who was suffering from a painful knee. The condition had obtained with remissions and exacerbations for eight months. Treatment had given no relief. The knee presented the usual signs of a low grade infectious process; and upon inquiry the fact was brought out that she had long had pyorrhea for which she had had intermittent treatment.

I located one tooth where pus could be expressed from the gum. She told me the dentist said this tooth was dead. I said to pull it out; but she and the dentist wanted to go on treating it. However, I was so insistent about it that it was eventually extracted. The patient's knee got well almost immediately afterward.

What I want to know is could anything have been done which would have at once saved the tooth to my patient and assured the cure of the infection and the relief of my patient's knee affection? Or was I right in insisting upon having it pulled out?

Dr. Smith, closing discussion: Dr. Welty suggests that periodontal diseases may be caused by septic tonsillar crypts. It must be admitted that we find the same pathogenic organisms living in similar symbiotic relation in septic tonsillar crypts and in periodontal septic lesions. It is also true that the close anatomical relation of the gums and tonsils makes it very easy for the organisms to be transferred from one to the other. We must bear in mind, however, that it is not the mere presence of these organisms which causes periodontal lesions. In themselves they are harmless to the gingival tissues; they become dangerous only if a traumatism provides them with the path of entry. Moreover, these pathogenic organisms reach the gingival tissues constantly from outside sources, and additional germs from the tonsillar region would not make much difference. Diseased tonsils, then, do not cause periodontal lesions, and the removal of the tonsils cannot cure these lesions. This can be done only by proper local surgical treatment.

Dr. McNaught asks if a toothbrush might not cause gingival traumatism and carry pathogenic organisms into the tissues. I think that depends upon the health of the gingival tissues, the type of brush, and also how it is used. In the first place, diseased or injured gums should not be brushed at all. We would not brush injured or diseased tissues in other parts of the body, and gingival tissues should receive the same consideration. If they are diseased they should first be cured by giving them proper surgical assistance. After they are healed they may be strengthened by frequent and correct brushing just as the hands may be strengthened by daily labor.

Regarding the sterilization of the toothbrush. I do not know of any simple method of sterilization that can be used for the daily care of the brush; but I do not think it is as dangerous as some writers would lead us to believe, because it contains organisms from our own mouth which we are accustomed to, and for which we have acquired a certain degree of immunity. Even if it should contain new strains from other sources they would be harmless if the gums are healthy enough to stands brushing at all.

Replying to Dr. Watkins' question regarding the advisability of removing pulpless teeth. I believe that a large percentage of pulpless teeth have apical septic conditions which endanger the general health, and that such teeth must either be cured or

removed. These apical septic foci occasionally contain almost a pure strain of streptococcus veridans which have very low oxygen requirements and also a low degree of virulence. This gives them special elective properties for the joints and valves of the heart, but apparently they do not possess such a wide range of pathogenic specificity as some of the organisms which are found in pyorrheal pockets. At the present time many dentists believe they can cure apical septic foci by amputating the end of the roots. Personally I do not believe this entirely removes the danger, because the tissues cannot possibly grow to the dead portion of dentine which is thus exposed. They simply tighten around it. Therefore, unless such dentine can be perfectly and permanently sterilized by the use of some non-irritating agent it must still contain pathogenic organisms which are capable of entering into the circulation. The mere fact that the tissues tighten around the end of such roots does not prove in my judgment that the dentine is sterile, and that the encystment would form an impenetrable barrier to the bacteria. Some of the agents which have been used to sterilize the dentine exert a harmful influence on the pericemental tissues. They injure these tissues to such an extent that they become subject to infection by bacteria which may be carried to them by the blood stream. There are many pulpless teeth, however, that appear to have no apical complications, at least not of a character that the radiograph would show. These teeth should not be removed unless further investigations prove them to be dangerous, for it is a serious thing to remove a tooth that can be retained safely.

APOCODEIN—A NEW LAXATIVE WITH EXCEPTIONAL ADVANTAGES *

By WALTER C. ALVAREZ, M. D., San Francisco.

INTRODUCTION.

The more cases of constipation I see the greater is the number in which the cause seems to me to be of a nervous or mental nature. In scores of cases I have seen it come and go according as the patient's mind was agitated or at rest. This is not so surprising when, as usually happens, the X-ray shows no sign of abnormality in the tract; the remarkable thing is that the same observation can be made in people with definite lesions interfering with colonic action. I know people whose bowels are all matted together after pelvic peritonitis, and yet they have no constipation. Others with similar adhesions, operatively demonstrated, suffer most of the time from an obstinate form of constipation; yet they have had periods of relief lasting weeks together, when the bowel movements were perfectly normal. This occurred generally when they were on a vacation or otherwise mentally at peace. I have seen a man with obstruction so severe that he came near being operated upon, yet his bowels moved perfectly a few days after a tremendous strain let up.

Any thinking physician must wonder also at the ease with which certain cases of constipation can be "cured," sometimes for months or years. For instance, those of you who have radioscoped many patients can probably call to mind a number of people whose bowels began to move normally the day they were X-rayed. A buzzing sound out of the darkness, a whiff of ozone and a reassuring prognosis must have done it all. Others are cured by a few static sparks, a little high frequency, or some intrarectal electricity. You may not all agree with me that, in this connection, these measures are purely vehicles for psychotherapy; but you will admit that constipation must at times be a psychic disease when one of our osteopathic brethren happens to cure a case by replacing a vertebra that was "two inches out of line." We know also of Christian Scientists avowedly cured after they have, like the pilgrims of old, hung up their pills and syringes in the temple.

The other day I asked a prominent radiologist if he had ever seen plates indicating an atonic constipation—one in which the colon seemed too weak and flabby to pass on its contents properly. "Not since I have been in business" was his prompt answer. He might have added that the flabby looking colons, full of gas and long sausage shaped masses, are to be found with *diarrhoea.* After watching the powerful contractions in the small colons of rabbits and cats (the animal is anesthetized and the abdomen opened under salt solution) I am convinced that we greatly underrate the strength of the colonic wall in man. As Keith says, there is enough muscle there to form a mass as large as the biceps of a blacksmith's arm [1]. It does not seem likely that such a muscle would ever become so weak that it couldn't pass onward small fecal masses. It might, however, be inhibited, just as the blacksmith's arm can be paralyzed reflexly by a slight injury to the surfaces in the elbow joint.

Constipation is almost universally associated with the spastic colon which, I believe, works not too little but too much, often pumping the feces backward, away from the rectum. The trouble might conceivably be due to a spreading to the lower colon of that surcharge of nervous energy which, in such people, often manifests itself in the tenseness of the voluntary muscles. These points have been discussed briefly in a recent paper [2]. It is significant that the best laxative for some of these constipated and overwrought people is a small dose of bromural or adalin (pure hypnotics like veronal) three times a day.

THE NEED FOR BLOCKING THE NERVOUS PATHS TO THE DIGESTIVE TRACT.

It appears from all this that one of the most needed drugs today is one that will block or lessen the disturbing influences reaching the digestive tract. Before we can block the paths from the nervous system to the bowel we must know where they are. Unfortunately, in spite of much brilliant work by Pavloff, Cannon, Auer, Carlson and others, we still do not know enough of the exact mechanism of these reactions. There are a number of paths by which mental influences can reach the bowel. First may be mentioned the direct connections with the central nervous system. Above, there is the vagus, distributed

* Read before the meeting of the California State Medical Society, Fresno, April 19, 1916.

mainly to the stomach, but reaching in its influence to the lower ileum; below, there are the nerves arising in the sacral plexus and supplying the lower three-fourths of the colon. The latter may have most to do with the production of the spastic colon.

The splanchnics, in connection with the myenteric plexus, carry inhibitory impulses to the tract. Although our experience has emphasized the great importance of this path in animals, it is hard to say how much it has to do with nervous indigestion in man. Our stomachs may seem to be paralyzed after strong emotion but our intestines are not. as evidenced by the lively rumbling and sometimes the tendency to diarrhoea. A patient once suggested that he would be alright if life would only furnish him with a certain amount of excitement and worry every day; a little of it constipated him and too much gave him diarrhoea. What he wanted was a happy mean.

Recently Cannon has shown that most of the bodily disturbances seen with fear and anger can be due to an outpouring of epinephrin [3]. As this secretion is oxidized and removed rapidly from the circulation, it does not seem likely that it can play much of a role in the production of such a lasting condition as constipation. I have found in a number of people that intra-muscular injections of adrenalin large enough to produce very annoying circulatory symptoms do not stop the rhythmic sounds of the intestine as heard by a stethoscope. Moreover, even in markedly constipated people, these injections are sometimes followed by one or more large bowel movements.

Circulatory disturbances may also play a large part. Just as we turn pale or blush externally, it is possible that we may do so internally, and such changes in blood supply could markedly influence the activity of the bowel. They may also have much to do with the rapid production of gas, experienced by many people under mental strain. Not only may there be a decreased absorption of the gas normally formed, but it is very probable that there is an excretion of CO_2 back into the bowel from the blood [4].

Some of you will sympathize with a prominent physiologist who said to me, "How I wish sometimes that I could cut my splanchnics and go ahead with my work in peace." Perhaps some day a drug will be found that will block the nervous impulses, and save us from the after effects of emotion. What a boon it would be if self-conscious girls could perform at recitals, and nervous women could discharge the cook, spank rebellious children, make important decisions or preside at the club without having to pay such a price in indigestion afterwards.

Atropin has been used quite extensively with the view of blocking these nervous influences. Although the experimental evidence is against the probability of medicinal doses having much influence on the bowel, I have seen some obstinate cases of constipation relieved by this drug alone. It can act not only on the vagus endings in the stomach, but on the sacral nerve endings in the colon. Another drug—nicotin—in large doses, paralyzes the ganglia intercalated between the splanchnics and the intestine and stimulates the cells in Auerbach's plexus. The result in animals is increased peristalsis.

Many smokers seem to derive a soothing and laxative effect from their tobacco, but little is known of the actual workings of these smaller doses of nicotine. To be sure, a cigar often contains enough nicotine to kill two men, but the smoker absorbs only a part of it [5]. The great toxicity of nicotin, together with its bad effects on heart and arteries, make it too dangerous a drug to prescribe; besides, we can hardly ask the minister's wife or the president of the women's foreign missionary society to smoke an extra cigar after meals.

APOCODEIN.

It is well known that most of the opium derivatives have, besides the sedative effect on the nervous system, a stimulant effect on the bowel. To be sure, some cause constipation, but, as has been shown for morphin, this may be due to too much stimulation, resulting in localized spasms. Codein acts like a purge on animals. Looking over the literature on this series of drugs, it seemed to me that apocodein was the most promising one for my purposes. For those who have never heard of it, I will say that it is made from codein as apomorphin is made from morphin. Just as apomorphin has much less of the sedative action and much more of the emetic action of morphin, apocodein has lost most of the sedative action and has gained more of the laxative effect of codein. Besides, it has a pronounced nicotin-like effect, paralyzing the sympathetic nerve cells and blocking inhibitory influences to the bowel. It also improves the tone of the intestinal muscle and by vasodilation, improves its blood supply. This again favors increased peristalsis. Certainly it has the most laxative effect of all the opium derivatives.[6]

Discovered by Matthiesen and Wright in 1870,[7] it was tried out on a few patients in England and in France.[8] Some thought it would be a good expectorant. Others found that it was an excellent hypodermic pugative that could be given, for instance, to the violently insane. Since then, it has remained a laboratory drug, unknown to the profession, but used by physiologists when they wish to paralyze sympathetic ganglia.

Three years ago I obtained some of the drug and soon found that it worked very well with a dosage of from 1/15 to 1/10 of a grain. Ordinarily I have given it with atropin in the following prescription:

℞ Apocod. hydr. gr. 1/15 to 1/10
Atrop. sulf. gr. 1/200 to 1/150
Sacch. lactis gr. ii
Ft. caps. tales No. xv
Sig. One b.i.d or t.i.d p.c.

I seldom exceed the smaller dose of atropin as many of the people who need the apocodein are so sensitive to drugs that even gr. 1/150 makes them uncomfortable.

In suitable cases, such a capsule taken two or

three times a day will insure a normal, formed stool without any discomfort. In three years only three people, all of them very sensitive to drugs and to nervous influences, have had to complain of anything more than this mildly laxative effect. They were purged quite actively without griping or other discomfort.[9] When the drug works well there is no need of increasing the dose. A number of people have taken it pretty steadily for three years and still get good results from gr. 1/15 twice a day. Many have remarked upon the ease with which they could taper off and discontinue its use. There is none of that fatigue and emptiness of the bowel which interferes so much with the resumption of normal activity after purgatives.

Although as an opium derivative the drug happens to come under the Harrison act, there is no danger of habit formation as apocodein gives none of that feeling of well-being and comfort that makes the chance user of morphin wish to repeat his experience. I can state positively that in the three years no patient has shown any tendency to habituation.

SOME SUGGESTIONS AS TO THE USE OF APOCODEIN.

It should be emphasized right here that apocodein is not a sure cure for constipation. We cannot expect it to work well when the trouble is due to binding adhesions, pelvic disease or some form of megacolon. Besides, it has failed in some of the cases that seemed eminently fitted for its use. Possibly larger doses would have worked, but I have never exceeded gr. 1/10 three times a day, for two reasons: one that I often had other cause to suspect that the case was not suitable; the other that, especially since the war began, the drug has been expensive (seventy-five cents a grain, dispensed). A greater experience with the medicine and a better knowledge of the mechanism of constipation may give us an explanation for these failures. In a few cases in which neither liquid petrolatum nor apocodein worked well enough separately, their combination brought about a most satisfactory action.

The relief of constipation would undoubtedly cure many cases of indigestion, but in order to really help these patients, the emptying of the bowel must be as nearly normal as possible. The thing to be avoided is the production of one big rush which will interfere with absorption and nutrition, and will leave the bowel fatigued, irritable and full of gas. Many of these people will go several days without satisfactory evacuations, and with increasing discomfort and indigestion. They then take a purgative which makes them feel weak and miserable for forty-eight hours or more. During this time they often go to the doctor complaining of "autointoxication" and flatulence. Then follow two or three days of comfort and the patient wishes he could always feel so well. The bowels fail to move, however, and the same cycle must be gone over again. What seems to be needed is a little extra pressure applied evenly and steadily from above to reinforce the normal gastro-colic reflexes which are most active after meals.

This extra stimulus may be either *chemical* or *mechanical*. In turning away from the drastic purgatives of our fathers, it seems to me that we have gone to the opposite extreme, and have developed an unreasoning dread of chemical laxatives. Instead, it has become the fashion to fill up the bowel with indigestible substances such as fresh fruits, salads, green vegetables and bran. Although much good may come out of this in deterring people from taking strong purgatives, and in popularizing the use of paraffin oil and agar, a great deal of harm is also being done by the routine prescription of these rough diets. This indigestible material often does not relieve the constipation, and the patient only suffers the more from flatulence, distress and under-nutrition. This is particularly true of the enteroptotics and asthenics—people who seldom can stand much cellulose in their diet, and who must always be making an effort to keep up their nutrition.

I cannot see why we should not use *chemical* laxatives in many of these cases, but I think we must follow the practice of some of the older clinicians and give them, not in one large dose, as we so often do, but in small divided doses after meals. The good results obtained with apocodein may be due partly to its use in this way. There is none of that depression and flatulence experienced after ordinary purgation. In fact, apocodein has often proven useful in relieving flatulence, dependent as it probably often is upon disturbances in motility. If the current would always set evenly down the tract, there would be no gas.

There are yet other reasons why a rough diet should not be prescribed for many of the cases in which apocodein is indicated. I have shown in a recent paper that food goes down the bowel because the duodenum and jejunum pump faster, harder and more continuously than does the ileum.[10] The force with which the bowel propels its contents appears to be graded downwards from the pylorus to the ileocecal valve. In health the tract may be likened to a sewer which has a good "drop" so that anything will go through it on time. (It must be emphasized here that I am comparing the force of gravity acting on the contents of the sewer with the *muscular forces* of the intestinal wall. Gravity has very little to do with the progress of material through the digestive tract, and I hope that no one will misunderstand me at this point. There are enough surgeons already who tinker at the bowel as if it were a coil of rigid tubing always held in one position.) If the upper end of the sewer be lowered or the lower end be raised, the "drop" will be lessened and there may even be some stretches in which the pipe runs uphill. Such a sewer will pass liquids without much trouble, but it will soon clog if paper, rags or other refuse be thrown in. In a similar way the gradient of forces in the digestive tract may be lessened either by a loss of tone in the stomach and duodenum (as in asthenics and en-

teroptotics); or by increased tone in the lower parts of the tube (as in chronic appendicitis, colitis, etc.). Our experience with the X-ray shows that under these circumstances, the current through the tract is slowed.

A similar slowing can be obtained in dogs by reversing short stretches of small intestine.[11] At autopsy, there is always found a ballooning of the bowel at the upper suture where the normal downward current and the reversed current in the loop conflict. The dogs can be kept in good health if great care be taken that they do not get hold of straw, bone knuckles and other indigestible materials. Apparently, liquids and mushy material can be forced against the current through the reversed loop, but all rough substances are held back so firmly at the upper suture that the animal dies of intestinal obstruction when enough rubbish has accumulated to block the passage.

I believe there are many people who have a similar tendency to reverse peristalsis in some parts of their intestine. I have in mind particularly those cases, all too frequent, in which the appendix has been removed, and yet there are symptoms of chronic appendicitis and the X-ray shows marked stasis in the lower ileum. Perhaps much as the dogs are kept alive, these people can also often be kept comfortable and in health on a smooth, cellulose-poor diet. Besides guarding against the introduction of food that will not go well against the current, we may, as has already been suggested, try to increase the downward pressure by giving divided doses of a mild laxative. Such treatment has often given me excellent results. I have already remarked elsewhere[12] that the relief that the so-called "bilious" get from a dose of calomel may be due to the driving of a normal current down the bowel again, overcoming those reverse waves that have been carrying more than the usual amount of bile back into the stomach, and which have been causing the acid regurgitation, the belching, the "dark-brown" taste and the coated tongue.[13]

The hypodermic use of apocodein to relieve severe post-operative vomiting deserves further trial. If such vomiting should be, as I believe it often is, a manifestation of reverse peristalsis throughout the tract, it might be stopped by restoring the normal downward waves. In the few cases in which the drug has been tried, the results have been very encouraging; in some so striking that it seemed as if we could say definitely that they were propter hoc and not only post hoc. Shortly after the injection, normal bowel movements took place, and the nausea and vomiting ceased.

Although the theories which have led me to use this drug may prove to be erroneous, and later pharmacologic studies may show that in medicinal doses its direct stimulant action on the bowel overshadows its effect on the splanchnics, nevertheless the properties of apocodein should always commend it to the profession. If others should find it as useful as I have done, it can then be manufactured in larger amounts at a much reduced price.[14]

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9. The earlier observers concluded that apocodein had no emetic action whatsoever. I have seen only one woman who complained of nausea after each dose of gr. 1/10. She probably had some idiosyncrasy to the drug.
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THE PATHOLOGICAL ANATOMY, SYMPTOMS AND DIAGNOSIS OF RENAL TUBERCULOSIS.*

By LEON JOSEPH ROTH, M. D., F. A. C. S., Los Angeles.

This subject, far from being new, is nevertheless not without interest considering the fact that the surgeon does not often see incipient cases, or at least cases in their early stages; and that a large proportion of the patients seen are already septic, or sufferers from secondary infections of the lower urinary or genital tracts. It is frequently many years from the debut of the renal infection to the development of sepsis and such symptoms as make diagnosis easy and prognosis very doubtful.

An early recognition simplifies conditions greatly, both as to the facility of operation and perfection of results; and in the patient, avoidance of complications, including bilateral infection and fatal termination.

During this lapse of time, what has happened to the patients? For what, and how, have they been treated?

Pathological Anatomy. It is assumed that the infecting bacilli are already installed in the kidney. Their origin and manner of entrance are not greatly essential to this description. The hæmatogenous route is unquestioned; the lymphatic probable but as yet inconclusive.

The process, then, of tubercule formation is in course of evolution; and the earliest lesions are in close relation to the capillary vessels, and more particularly to the glomeruli. The primitive surgical type is miliary, sub-chronic, unilateral and

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circumscribed to one or several areas in the cortex. (Specimen No. 1.)

These minute formations vary upward in size to a pin head or larger; are yellow or translucent in color, and sometimes difficult to detect, except in an exsanguinated kidney. They may also be found at distant portions of a kidney already frankly infected by later lesions. (Specimen No. 2.)

The nodular form is a progression, in which the lesions are of larger size, yellow white in color, and in their early stage of development are firm to the touch and surrounded by a limiting wall.

Later the nodules soften and liquefy, and the evolution of these soon or late produce increase in size. At a given time necrosis occurs with eventual rupture into the pelvis. Rupture through the capsule of the kidney is rare at this stage.

What was a "closed" tuberculosis has now become the "cavernous" form, or "ulcero-cavernous" to be more exact. (Specimen No. 3.)

The process of fusion and destruction thus forms a pyo- or hydronephrosis, or a combination of the two; and may continue to the extent of possible complete annihilation of all renal structure and eventuate into a polycystic formation.

This same destructive process directed externally results in peri-renal abscess formation or the creation of a fibro-fatty peri-nephritis. (Specimen No. 4.)

Apart from these are the tubercular nephrites due to actual continuity of inflammation and to toxic influences.

It is to be seen that once the tuberculosis becomes active, there is no regression. A scarred kidney may be found post-mortem, but the scars are always associated with progressive destruction elsewhere in the gland. A spontaneously healed renal tuberculosis is a rarity. An anatomical amputation caused by obliteration of the ureter, and quiescence of glandular pathology, is not unknown.

Age Statistics. Renal tuberculosis is rare during infancy and old age; it usually attacks those between the ages of 15 and 40, and it is a curious fact that the carriers of tubercular kidneys are, for the most part, and except in the later stages, persons of exceptionally robust appearance.

Statistics prove that both kidneys are affected in equal proportion and that the infection is practically always unilateral at the onset.

The percentage of ultimate development of bilaterality varies from 50 to 85%, depending upon whether the statistics are taken from the clinics or the post-mortem tables. These figures concern the surgical tuberculoses only, the kidneys being affected simultaneously in the acute miliary form. This latter is essentially medical and will not be further considered.

Symptoms. Renal tuberculosis in its early stage manifests itself by vesical and urinary symptoms, by precocious hæmaturia and frequently by albuminuria.

The most important vesical symptom being frequency of urination, with or without a premonitory polyuria. The frequency is more noticeable during the night than during the day. There is attendant pain, slight at first, but increasing with the progression of the disease. There may be extreme frequency and no bladder involvement; or with bladder involvement there may be a practically constant desire to urinate, particularly if the capacity of the bladder is becoming obliterated. The pain is practically in direct proportion to the pathological conditions. At the beginning, the frequency is due to a reno-vesical reflex, and the night urine is increased, constituting "the nocturnal pollakiuria" of Bazy. With these vesical symptoms and the now troubled urine, a few drops of blood may appear at the termination of miction. To the uninitiated this is a cystitis pure and simple; a treatment consisting of antiseptic irrigations with or without a catheter is instituted, the vesical neck and prostatic urethra are irritated and congested, the bladder may now become infected if it has not previously been, and thus in the male, the genital tract is exposed to contamination.

In young subjects incontinence of urine occasionally occurs during the day, but is most frequent at night, and this, associated with pyuria, is a symptom of major importance.

Polyuria is common and precocious, and may constitute the only initial symptom of renal phymatosis. It is met with even before the first painful vesical manifestations. The quantity of daily urine may approximate 2000 c.c. and is induced by a coincident nephritis or toxic irritation.

Pain. This symptom is not constant and may vary in certain cases from a complete absence, or only reflex sensation, to a condition of continual suffering. In character, it may be only a sense of uneasiness or it may reach the severity of a renal colic. This is due to pelvic retention and distension, with radiations reflexly to the other kidney or elsewhere, or most commonly down the course of the ureter to the inner part of the thigh, the testes, glans or labia. Reflex pains are diagnostically troublesome, and include the reno-renal, reno-vesical, uretero-vesical and others. Likewise confusing are the "painful areas," the importance of which are in inverse proportion to that attributed to them by their discoverers.

Hematuria. This is frequently an initial symptom, and one of the most important and constant. It may, for the sake of comparison, be likened to hemoptysis as a premonitory sign. Renal hemorrhage may vary from the intermittent and decidedly macroscopic to a more or less continuous and microscopic variety. This latter is a special characteristic, the urine remaining apparently clear. In some cases numerous examinations have failed entirely to demonstrate any red blood corpuscles. In character it may be total, partial or terminal; and when it is the latter it may simulate simple vesical or prostatic urethral bleeding. Occasionally it dominates all other symptoms and be so profuse and continuous as to compromise the patient's life.

The hematuria is not quieted by rest or the dorsal position, or provoked by exercise; thus being similar to the hemorrhage of a cancerous kidney, and differing decidedly from one containing calculi. The origin is either congestive, and due

to increased vascularity of the parenchyma surrounding a neo-formation, or frank, such as is caused by an ulcerated surface or papilla, or rupture of a contained blood vessel.

Objective Symptoms. These are not always of great value, as it is usually late in the disease that a tubercular kidney increases in size. The palpable kidneys, that is the pathological ones, may not be any larger than a normal one that has undergone a compensatory hypertrophy. On the other hand a retro-evolution from a practically normal sized kidney to its obliteration may occur without the kidney ever having been palpable. These facts do not always hold where the patient has lost much weight and is frankly tubercular.

Urinary Diagnosis. The urine contains pus microscopically, then macroscopically, the quantity depending upon the extent of the pathological process, and varies in amount from a very slight total haziness to a complete turbidity. The color of the urine is pale and the comparatively small amount of pus does not settle. As the quantity of pus increases a decided deposit forms, but the supernatant fluid retains the same character as the first variety. This is a characteristic of renal tuberculosis. The same amount of pus may be found in other renal diseases, but the urine will clear, except if a bacteriuria exist. This increased amount of hazy urine has been denominated by Guyon, the "troubled polyuria."

The French school lays great stress on the diagnostic importance of the aseptic pyuria, that is a urine containing pus, that does not clear upon standing, and that contains no micro-organisms. This does not exclude the fact that tubercle bacilli may be found in a bacterial urine.

The urine may contain casts, depending upon a concomitant nephritis. The total amount of solids is decreased, particularly urea and the chlorides.

Albuminuria may be noted before the appearance of pus and blood. This is accounted for by the toxic condition provoked by the bacilli, and is supposed to indicate a toxic nephritis. Albumin has been found in the perfectly limpid urine coming from a presumed healthy kidney after its fellow had been removed. It always will be found in urine containing appreciable blood and differentiated on this account. Otherwise the presence of albumin is not essential in diagnosis, though it will be found, in a large majority of cases, if frequent examinations are made.

It goes without saying that a history of the patient and the patient's antecedents has been obtained. A general examination is a matter of routine; and probably the most essential aid is gotten from the microscope. Both Caspar and Rovsing maintain that the bacilli of Koch can be found in over 80% of the cases of renal tuberculosis. This leaves room for argument considering the figures of other authors who claim 20% a high estimate.

The possible confusion with the smegma bacilli must not be forgotten, and care must be exercised in the collection of the urine and a differentiation made by appropriate methods of staining.

The collection of the urine must be preceded by a careful cleansing of the glans, meatus, etc., and the urethra irrigated with a suitable antiseptic solution. Several methods have been suggested for procuring the specimen—the simplest, however, is to have the patient urinate in several sterile sedimenting glasses, and use the middle or last portion for the examination. The same may be done after passage of a catheter. If ureteral catheterization is practiced, the ordinary precautions suffice. It appears as a rather obscure possibility to convey the smegma bacilli into the bladder upon the end of the cystoscope, and from there into the ureter and kidney upon the catheter, and to again find them escaping exteriorly through the latter.

A point in diagnosis which has been to a certain degree maintained in the past, is that the tubercle bacilli were usually found in small numbers, and the smegma bacilli in large. This is probably incorrect, as the number of micro-organisms found depends upon the activity of the focus expelling them, and the chance of happening upon a large collection.

It is preferable to have a fresh specimen for microscopical examination in order to avoid crystals and chemical or bacterial changes. Should crystals be present, suitable means should be used for their dispersion. A fairly large specimen is advisable, at least 100 c. c. from the bladder, but it is oftentimes necessary to work with lesser quantities, especially those taken directly from the kidneys. The entire amount should be centrifuged at a high speed, say 3000 revolutions or more to the minute, and each tubeful for from 15 to 30 minutes. The smears should be heavy and fixed to the slide by heat only.

The smear is stained with carbol fuchsin, allowing to steam for about five minutes. Instead of methylene blue, equal parts of Esbach's picric acid solution and 95% alcohol is used as a counter stain.

The decolorization with 5% hydrochloric acid in alcohol is followed by absolute alcohol. It is now believed that the smegma bacilli are not fast to absolute alcohol, consequently any bacilli found on the slide are tubercle bacilli. The counter stain gives a faint yellowish background and shows only the pus, epithelium and general debris in yellow, and the bacilli distinctly red. The main advantages of this counter stain are that much thicker smears may be utilized, and search is simplified.

It is incumbent in passing to mention the Pappenheim stain for the color differentiation of the tubercle and smegma bacilli, and Antiformin, a chlorinated lime and caustic soda mixture used as a pus solvent. At present neither is used in our examinations.

For inoculation, the specimen undergoes the same technique to complete sedimentation. The entire quantity of sediment is diluted up to two c.c. with sterile salt solution, and one c.c. each is injected intra-peritoneally into two guinea pigs. These are observed for about six weeks, provided they do not previously succumb, or a tubercular development is not apparent before this time. A shorter period than six weeks is ordinarily in-

sufficient. A period of three weeks, as occasionally advised, has always given us negative results.

The involvement is most frequently in the omental glands, the spleen, mesenteric glands and the liver, in the order named. These tissues should be carefully examined because inoculation is usually done in cases where only a few, or even no tubercle bacilli are found in the urine.

The post inoculation lesions may be very small, and may be overlooked. When they are located, smears are prepared according to the technique previously described. In the event the bacilli are not found by this method, a histo-pathological examination will be necessary.

The use of tuberculin has been advocated, but the results are uniformly fallacious, and the evidence not specific for any individual structure.

Cystoscopic Diagnosis. The use of the cystoscope and ureteral catheter in diagnosis is too well known to require lengthy description. Among other vesical and uretero-vesical findings may be mentioned the rarer tubercle formations, bullous edema and a vegetative process of the mucous membrane, which simulates villous or papillomatous growths so closely as to possibly cause some confusion.

Tuberculous ulcers of the bladder rarely perforate, and seldom cause much hæmorrhage.

Roentgen Ray Diagnosis. In the event of total absence of clinical, laboratory or cystoscopic evidence, information obtained from radiography or pyelography may be of extreme value. No one has had opportunity for greater observation than Braasch of the Mayo Clinic, who in brief, states "that certain deformities of the pelvic outline are characteristic, or peculiar to renal tuberculosis. In early stages, evidence of inflammatory processes in the outline of the pelvis may be so slight as to be unrecognized. When pelvic deformity becomes apparent, it may closely simulate that of pyelonephritis and occasionally it may be impossible to differentiate. In tuberculosis, pelvic deformity predominates in the outline of the calyces. The true pelvis is usually but moderately enlarged, unless ureteral stricture should cause a considerable degree of a mechanical obstruction or pyonephrosis be present.

The calyces appear irregularly dilated, with uneven borders, particularly at the apices, which may appear as if detached from the pelvis. When the process largely involves the pelvis and peri-pelvic areas, the usual regularity of the pelvic outline is lost and in its stead will be found a diffuse, irregular outline, moth-eaten in appearance.

The first evidence of cortical necrosis will, as a rule, be visible at or just beyond the end of the calyces. As the inflammatory process extends, the necrotic areas become larger and may cause irregular shadows adjacent to the pelvic outline or appear as irregular areas scattered in various parts of the cortex. Occasionally the outline of the necrotic area is apparently detached from the pelvis or connected with it by a narrow isthmus."

Kidney shadows in good radiographs are not difficult of detection, especially in thin persons, and renal malpositions, irregularities and enlargements are usually perceptible. Barring the possible presence of intestinal gases, calculi, calcified glands, phleboliths, an indurated gall bladder or gall stones, certain shadows in the substance of a tuberculous kidney may be produced by caseification, calcification, cavernous incrustation or a transformation resembling mastic. These are not unusual post-operative verifications, and while not very frequently seen, do, however, lend assistance in obscure cases.

Usual Diagnosis. Of occasional occurrence are those chronic cases with inflamed and rigid bladders in which any exploration is frustrated by pain, small capacity, haemorrhage, stricture, mucous membrane exfoliation or impossibility of clearing the field of pus and debris. The diagnosis is unquestioned. The subjective and objective symptoms either do or do not indicate whether one or both sides are affected and there are no certain means of determining the integrity or functional value of a possible sound kidney. What is there to be done?

Catheterization through a cystotomy wound has been practised; its difficulty can readily be imagined.

In a crude manner, an indigo-carmine injection will give a time test indicating the rapidity of excretion; as also will phthalein, plus with the latter, a percentage test of total excretion, which if high enough may lead one to suppose that functional value somewhere remains. Other familiar tests may be supplemented. It is, of course, understood that the urine is obtained from the bladder, and preferably through a retained catheter.

By taking advantage of minimal evidence enough information may be gotten to permit exploration in a poor operative risk, with results that, while not always salutary, may be productive of great benefit, temporarily at least.

Cases with pulmonary complication, unless this is absolutely latent, should be left alone.

THE HISTORY IN GROUP STUDY.

(A Summary of One Hundred Case Histories.) *

By J. MARION READ, M. D., San Francisco.

This discussion will be confined to a study of one hundred case histories taken from the records of an organization for group study at St. Luke's Hospital. Throughout the process of differential diagnosis, this organization, by its system, aims at the control of dangerous omissions during the taking of clinical histories and the making of physical and laboratory examinations.

Organization: The omissions in physical examination are largely ruled out by the separate and independent examinations of ten specialists who record their findings on outlines. The shortcomings of the laboratory are corrected by having the pathologist meet daily with the clinical team in the discussion of cases. Thus he is able to see the necessity of repeating or extending his work. The ordinary method of history taking was found inadequate for this system of study and consequently a uniform outline was adopted. The information contained in these uniform records

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has lent itself easily to tabulation and statistical study. In this series of one hundred cases, the past history is of particular interest, the outstanding feature which distinguishes them being their marked chronicity. The uniform history outline, however, covers only the past history of the patient. No attempt is made to get a uniform history of the present illness nor tabulate this information which the patient is allowed to give in his own words.

Method of Study: The modus operandi of arriving at the diagnostic value of a history under this system will be of interest: The history is taken before any laboratory or physical examinations are made, and at its conclusion the primal impression of the diagnosis is written. In some cases, several impressions are recorded. This is checked up against the final diagnosis which is reached after all the clinicians make their examinations and the case is thoroughly discussed in meeting. In this way, the personal equation and tendency to uphold the first impression is entirely eliminated.

The clinical histories, like all the other records, are tabulated in groups of fifty. These clinical facts are summed up in much the same manner that commercial accounts are kept, the items here being symptoms rather than dollars. It was one of these units from the men's and one from the women's records which constitute the one hundred histories under discussion.

Complaint: In order to give an idea of the usefulness of this method of study and system of tabulation, some results of the work will be given: If it were necessary to select from the history one single item of greatest value in pointing to a diagnosis that item would be the complaint. In some cases, however, there is no apparent relation between the complaint and the disease. This point was illustrated by one patient whose presenting symptom was gas on the stomach, but the disease from which he suffered, was found at autopsy to be generalized miliary tuberculosis. These patients presented a total of 208 complaints so that there was an average of over two each. There were, however, only eighty-four different complaints. A few of these in their order of greatest frequency are shown in Table No. 1.

TABLE I.

Complaint	*Frequency of Occurrence*
Vomiting	13 times
Headache	12 "
Epigastric pain	12 "
Cough	11 "
Nervousness	10 "
General weakness	8 "
Nausea	8 "
Dizziness	5 "
Anorexia	5 "

Age: Regarding the ages of the patients whose records constitute this series, it is interesting to note that although they belong to the class known to the profession as "Old chronics," still they are rather young in years. The average age of the women was a little less than 35 years. The fifty men averaged almost 41 years. Their relative youth and the long duration of the present illness, which averaged nineteen and one-half months, marks these patients off in a class worthy of the most thorough study.

Family History: The family history is taken with some detail and yields several points of general interest. One of these is the frequent recurrence of certain causes given for the parents' death. In a group of 67 cases, the cause was cancer in 16.4%; diseases of the heart and blood vessels in 16.4%; tuberculosis in 13.4%, and pneumonia in 12%. It may be of some value to know that the average age of the parents at death in 94 instances was only 58½ years. Although no conclusions could be drawn from so few figures, still they seem to suggest that these patients may belong to families of lower vitality and resistance.

In a carefully checked up system such as this, it is apt to be found that some points of time-honored importance and helpfulness in diagnosis are in reality of questionable value. This fact proves true in regard to the family history. This series seems to indicate that the so-called familial diseases are negligible with the possible exception of pulmonary tuberculosis in which there was also a contact history in most cases.

Operations: A point in the histories which directly evinces the chronicity and obstinacy of the ailments is the large percentage of the patients who have undergone operations. Most of these patients had been the rounds and naturally visited a few surgeons. Many of them, in fact, had even been under the tender care of osteopaths and Christian Science practitioners. The surgeons left their marks upon nearly half of the women, twenty-one having been operated upon, eleven of whom could boast of major operations. Five of these eleven had been upon the table more than once, and two of these five had undergone two major operations. The men had been treated more conservatively. Only fifteen of them had been under the knife, seven of them for major operations. In every case the men regarded one operation as sufficient. These one hundred patients were the subjects of forty-four operations, which is a higher ratio than would be found in any one hundred patients chosen at random. And the striking fact about this matter is that they are still suffering from the ailments which many of these operations were intended to cure.

TABLE II.

Operations	*Women*	*Men*	*Total*
Major	13	7	20
Minor	16	8	24
	Total 29	15	44

Respiratory System: It would be folly on the clinician's part, as well as gross injustice to the patient, to venture a diagnosis of pulmonary tuberculosis without attempting at least, to determine the presence of changes in the chest either by clinical or X-ray examinations. But the figures obtained in this series show that a correct diag-

nosis can be made in a majority of the cases from the history alone. In nine out of the fifteen cases diagnosed as pulmonary tuberculosis, the impression had been gained from the history. Cough and night sweats were or had been symptoms in eight and three of the cases respectively. The frequent recurrence of other infections of the respiratory tract such as coryza, rhinitis, catarrh, bronchitis, pleurisy and even asthma were repeatedly of assistance in directing search along lines which revealed a tuberculous condition. It is evident that the more familiar a clinician is with the symptoms produced by a given pathological lesion the more detailed will his questioning be and the better able will he be to detect the condition from the history alone; therefore, it is not unreasonable to presume that the history is the most important factor in arriving at a diagnosis of early tuberculous lesions in the lungs.

Nycturia: The frequent occurrence of nycturia in the urinary history was notable. Regarding nycturia in conjunction with other urinary and circulatory symptoms it was frequently possible to make a diagnosis of arteriorenal disease which was later substantiated by the laboratory blood pressure and other clinical findings. This symptom was present in 34% of the cases, equally divided between the sexes.

The general idea of the prevalence of nycturia in elderly people is substantiated by our data which show it to be present in all but three patients over 50 years of age.

Pregnancies: A consideration of the pregnancies in the women's series offers some interesting data. Thirty of the women patients, or 60%, provided the sixty-five pregnancies which make up these data. The outcome of these pregnancies is given in the accompanying table:

TABLE III.

	Number
Children born alive	36
Children still living	31
Abortions, induced	17
Abortions, spontaneous	8
Stillbirths	3
Ectopic pregnancy	1
Total	65

Number of Diagnoses: Before giving the final figures on the number of cases diagnosed from the histories, it will be necessary to state that one or more secondary diagnoses were made on all except ten of the cases. After the examinations which these patients were subjected to, it was generally found that there was more than one pathological condition present. The primary diagnosis was made to explain the complaint, or presenting symptoms, and the secondary diagnoses covered the other findings. There was an average of 2.6 secondary diagnoses on the one hundred cases. The impression from the history corresponded to the final primary diagnosis more frequently than it did to the secondary diagnosis. Table IV shows the number of times the impression from the history agreed with the final diagnosis.

TABLE IV.

Agreement	With Primary Diagnosis	With Secondary Diagnosis
Complete	40%	7%
Partial	13%	34%
No.	44%	50%
No diagnoses made	3%	9%
Total	100%	100%

The diseases which the histories were most valuable in disclosing, covered a wide range. Out of the fifty-nine different primary diagnoses, 23 of these had been very strongly suggested by the history. Table No. V shows the conditions whose symptomatology is sufficiently clear that one gets the correct impression repeatedly from the history alone:

TABLE V.

Interlobar empyema	2 out of 2 times it occurred
Endocarditis	2 out of 2 times it occurred
Pulmonary tuberculosis	9 out of 15 times it occurred
Syphilis	3 out of 6 times it occurred
Hepatic cirrhosis	2 out of 5 times it occurred
Goitre	2 out of 5 times it occurred

In a general medical practice including acute and chronic cases, the history is the means of diagnosis in perhaps a higher per cent. of cases. This was even more true before the time of refined and numerous laboratory examinations. Even now the practitioner limited in laboratory facilities and skill at physical examinations relies almost entirely upon his history. This time-honored place which the history has had in diagnosis is still maintained in spite of the additional aids at our command. But the history in order to hold its place should be brought to the same point of perfection and detail as the laboratory and physical examination.

Conclusions: In conclusion, it should be stated that the slight scientific value possessed by so few statistics is thoroughly realized. They have been presented at this time, however, not because of their intrinsic value but in order to show how much clinical knowledge could be readily obtained from such records. The complete method of Group Study as employed by the Diagnostic Section of St. Luke's Hospital Clinical Club is as yet unpublished. But its feasibility is so great that at once it becomes quite evident how its adoption by other hospitals would yield enough statistical material in a very short time to give a composite picture of disease in this community.

RETRODISPLACEMENTS OF THE UTERUS, WITH ESPECIAL REFERENCE TO THEIR CAUSATION AND A NEW METHOD OF TREATMENT.*

By J. C. NEEL, M. D., San Francisco.

Retrodisplacements of the uterus were probably first spoken of about the middle of the eighteenth century. While the ancients recognized prolapse, other displacements were included in the imaginary wanderings of the uterus to the various parts of the body. During the eighteenth century, when the care of labor cases began to pass from the midwife proper to the trained male obstetrician, the great danger associated with pregnancy in the retroverted uterus was clearly recognized. In 1770, William Hunter described retroversion of the uterus and four years later reported a case associated with pregnancy. During the first half of the nineteenth century, retrodisplacements were generally recognized and many ingenious mechanical devices were made to correct this deformity. Many of the pessaries employed during this period were a little less than instruments of torture, yet they were widely used until the beginning of the present operative period.

The normal location of the uterus is an anteposition whose plane is almost perpendicular to the longitudinal plane of the body. Its posterior walls are in constant apposition to the small bowel which normally extends into the cul-de-sac of Douglas. The mechanism by which the uterus is normally poised in this position must necessarily be a very complex one, owing to the pressure exerted upon it by the surrounding viscera, and at the same time to provide for the physiological processes incident to child-bearing.

Before attempting to correct any malposition one should have a clear understanding as to which part of this mechanism has been disturbed and before one can have such an understanding a concise knowledge of the various ligiments is absolutely essential. Laterally the fundus is invested with the broad ligaments which include the round ligaments, vessels, connective tissue and nerves within its folds. Their action is beautifully demonstrated in conservative pelvic operations requiring their incision; as, for example, the removal of both tubes. When the broad ligaments are cut free from the fundus, the uterus immediately assumes a reclining position on the rectum, even though the round ligaments have not been disturbed. The round ligaments have been a stumbling block to most gynecologists who consider them the true supporting structure of the uterus. Their muscular structure precludes the possibility of their action as a constant support, for nowhere in the animal organism is a muscle called upon to do continuous duty. Furthermore, when the abdomen is opened with the uterus in normal position the round ligaments are never found on tension but appear as lax cords and usually enter the internal inguinal ring at a point posterior to their attachment to the fundus of the uterus. Their chief function, therefore, seems to be demonstrated by their hypertrophy during pregnancy, when they act as stays to poise the enlarged uterus in the abdominal cavity. On the other hand, their atrophy during long-standing retrodisplacements would seem to indicate a similar action in non-pregnant conditions.

Volumes have been written regarding retrodisplacements of the fundus while practically nothing has been said about displacements of the cervix, which constitutes an important step in the production of malpositions in a large percentage of cases. For various reasons, the utero-sacral ligaments have received insufficient attention. In the first place, their anatomical relations have been a bugbear to many surgeons. Although they are the chief structures holding the cervix high in the vaginal vault, most operators have depended entirely upon one method or another of suspending the fundus, drawing the cervix into its normal position. The utero-vesical ligament is a very elastic structure, capable of wide variations, and probably contributes little to the support of the uterus. The restoration of a torn perineum should always be attended to since it contributes chiefly to the support of the cervix and thus aids in maintaining the normal position of the uterus.

There are three main types of retrodisplacements; namely, retroposition, retroflexion and reclining uteri. Retroposition is the most common type, usually due to errors of omission and commission of the poorly trained obstetrician. The sequence of events in such cases is a downward displacement of the cervix and although the fundus may retain its normal relation to the cervix, the constant pressure upon its normal supports causes the entire uterus to become prolapsed on the rectum. In true retroversions, the cervix maintains its normal position but the fundus is bent backwards to form an acute angle with it. This type is usually found in nullipara and may be due to improper development, to sudden increase of intra-abdominal pressure, brought about by active exertion or by pelvic adhesions. The reclining uterus is a condition not usually spoken of in gynecological text-books but not infrequently occurs in young women and frequently causes the most obstinate type of dysmenorrhea. In such conditions, the cervix is displaced downwards, and although the fundus maintains an ante-position, there is an acute angle formed with the cervix and the entire uterus together with the ovaries assumes a reclining position in the cul-de-sac of Douglas. Under such conditions, the pelvic blood supply is disturbed, the ovaries become enlarged and tender and a definite obstruction to the drainage of the uterus results. During the past year, I operated upon several such cases, and by shortening the utero-sacral ligaments, supported the ovaries, secured free drainage of the uterus and immediately relieved the very severe symptoms of dysmenorrhoea.

The fertility of the surgical imagination is well demonstrated by the various operations that have already been published for the suspension of the uterus. As Clark has recently stated, the "57 variety" mark has certainly been out-numbered.

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This, however, is sufficient evidence that so far the ideal operation has not been included. It is not the object of this paper to criticize the various methods already proposed for, undoubtedly, good results have been attained by various procedures.

The following types of operation have been fairly successful: (1) The Kelly suspension, in which the uterus was sutured to the anterior parietal peritoneum. This operation was first done by Dr. Kelly in 1885 and simultaneously published by Olshausen in 1887. The disadvantage of this operation is the difficult labors which it occasionally produced so that it is no longer followed as a routine procedure. (2) The Alexander operation, in which the round ligaments are shortened at the inguinal ring on either side. This operation was first described in 1882 by Alexander [4] of Liverpool. Although the technique has been variously modified it has never become popular here, chiefly because it necessitates two incisions and does not permit treatment of coincident intra-pelvic and intra-abdominal lesions. (3) The Gilliam operation, in which the round ligaments are drawn through the peritoneum on either side near the internal inguinal ring, carried either between or through the muscles of the abdominal wall and sutured to the fascia of the recti muscles. This operation will give good support to the uterus but it occasionally becomes adherent to the abdominal scar and in a large series of cases a good percentage complained of severe pain at the site of suture of the round ligaments. This pain would persist for a period of several days to many weeks and became so troublesome that the operation was abandoned about two years ago. (4) The Webster-Baldy operation, in which the broad ligament is punctured beneath the utero-ovarian ligaments and the round ligaments are drawn through and sutured to the posterior surface of the uterus. There are two main objections to this operation. In the first place, raw surfaces are left from the sutures where they come into close contact with the bowel and thus furnish the necessary conditions for adhesions. In the second place, the blood supply of the ovaries is disturbed, they become swollen, and sometimes cause severe post-operative pain. (5) The Coffey operation, which plicates the broad ligaments over the anterior surface of the fundus.

The ideal operation must be one which will poise the uterus in ante-position and depend upon the intra-abdominal pressure to maintain this position without mutilation of the pelvic structures and at the same time provide for the physiological changes incident to child-bearing.

The operation which I recently described in *Surgery, Gynecology and Obstetrics* is one which we have performed about two hundred times during the past two years with most satisfactory results. The abdomen is opened through a midline incision which is carried down to the symphysis pubes. Both sheaths of the recti muscles are opened and dissected free sufficiently to allow the placing of the suture of silk in the under surface of the fascia about two centimeters from the median line just above the symphysis. The suture is then carried through the underlying muscles and peritoneum just lateral to the reflection of the bladder on the anterior abdominal wall. The peritoneum is next caught up at short intervals down to the internal inguinal ring and along the course of the round ligament to a point about two centimeters from the uterine cornu where the round ligament is pierced and the suture brought out of the abdominal cavity near the point of entrance. The same procedure is carried out on the other side and the sutures are tied. These sutures shorten both the anterior folds of the broad ligaments as well as the round ligaments and at the same time leave no raw surfaces within the abdominal cavity. In order to obtain a pull forward rather than upward the suture is anchored near the symphysis.

When there is a displacement of the cervix a running suture of silk is taken in either utero-sacral ligament, beginning at their junction to the cervix, and carried back to the pelvic brim. In placing these sutures one must avoid the ureters which usually lie outside the ligaments. When these ligatures are tied the cervix is drawn backwards and at the same time a shelf is made for the support of the ovaries. Where there is a displacement of the cervix, this is a most valuable procedure and in many cases is quite sufficient to secure an excellent suspension of the fundus.

Conclusions.

1. This operation restores the retroverted uterus to its normal position in the pelvis without mutilation of the pelvic structures.

2. There are no raw surfaces left within the abdominal cavity.

3. The anterior flap of the broad ligament is shortened and given a broader attachment to the abdominal wall.

4. There is no interference to bladder function.

5. It allows the normal hypertrophy of the uterine ligaments during pregnancy.

6. More attention should be given the displaced cervix since its restoration to normal position is fully as important as that of the fundus.

7. The shortening of the utero-sacral ligaments is a simple procedure and should be done in all cases in which there is a descensus of the cervix.

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Discussion.

Dr. W. G. Moore: As Dr. Neel stated, there are any number of operations for the support of the uterus. Personally, for the last three or four years, I have been doing the modified Gillian suggested by Montgomery; that is, pulling the ligaments retroperitoneal to the internal ring, then around and attaching to the fascia near the mid line; this in my hands has given excellent results.

Personally I have not paid much attention to the sacro-uterine ligaments. In those cases which I have been able to follow, the above operation has given good results, but I think the support given by the perineum is more essential than that of the sacro-uterine ligaments.

Dr. A. B. Spalding: I would like to call attention to some work done by Blaisdell a year or so ago at Stanford. He did a very valuable piece of anatomical work on the structure and function of

the sacro-uterine ligaments, which fits in very well with what Dr. Neel has brought out tonight.

When patients suffer from retroversion, they often have marked interference with the bowel function and with the circulation in the veins of the broad ligament. Blaisdell demonstrated that in lower animals and in man, the sacro-uterine ligaments are fan-shaped structures with fibers attached not only to the uterus, but also to the walls of the vagina and to the rectum. To raise the walls of the vagina and raise the rectum to a place where the bowels can functionate properly, relieves the symptoms not only of retroversion but of prolapse and of constipation.

It has been a pleasure to me to listen to this paper. After every operation that I have performed for retroversion, I have hoped that fixation would not demonstrate itself in later pregnancy. The patient has been a source of worry for fear that the round ligaments would not be in the position in which they are needed when the woman has a labor pain. This operation of Dr. Neel's is decidedly an advance which men doing obstetrics and gynecology should notice with interest. Too many men operate who do not confine the women afterward.

Dr. J. Craig Neel, closing discussion: The principle of shortening the broad ligament has been emphasized by Dr. Coffey in a paper published about 1909 in Surgery, Gynecology and Obstetrics. In this paper Dr. Coffey goes into detail regarding the support of the abdominal viscera and strongly emphasizes the fact that muscle structure is not a normal support of any organ in the body, and concludes that the uterus is no exception; hence the round ligaments cannot be considered constant uterine supports.

The operation which I have described not only shortens the broad ligaments but at the same time they are given a broad attachment to the abdominal wall without leaving any raw surfaces inside the abdomen. I would like to emphasize once more the importance of shortening the utero-sacral ligaments where there is a displacement of the cervix or a prolapse of the ovaries.

DISCUSSION OF THE PATHOLOGICAL DIVISION OF ST. LUKE'S HOSPITAL CLINICAL CLUB.

By E. V. KNAPP, M. D., F. W. BIRTCH, M. D., GEO. J. McCHESNEY, M. D., and T. G. INMAN, M. D.

If a clinician had a mind sufficiently endowed by nature, and sufficiently cultured by study to be able to appreciate all that is known about anatomy, surgery, pathology, and all other divisions of medicine, and he also had at his disposal time to make examinations of his patient in each of these branches, he would have a most comprehensive, correlated clinical picture; but each division of medicine has developed so extensively that it is impossible to ascertain full knowledge of any one. Furthermore, no individual could systematize his time so that he could cover all divisions of medicine in all cases even though he had the ability to do so. Then the clinical picture must be blurred the further the clinician specializes his work. Since specialization is a necessity, depending on human mental limitation, it must be accepted. On the other hand, the limitation of study and practice along lines of personal interest and adaptability has its advantages, for within them it is more nearly possible to attain perfection. The difficulty is, however, that a clinician who interprets the ills of his patient partly through written reports of various specialists who have not studied the case as a whole, is not always bringing the whole knowledge of each of them to bear on the case. One or more of these specialists might add to or subtract from their reports were it possible for each to see the case from all other angles. It is evident then that isolated written reports are not always easy to correlate into one comprehensive picture because the facts are not all present. In order that the unwritten information of the various clinicians should not be lost, St. Luke's Hospital Clinical Club organized its Diagnostic Section, which provides that, after the reports are written, the members of the section must meet and add facts to their reports from their general knowledge, until the clinical picture is clear to all as if the whole had been done by one.

This idea of having the pathologist a unit of the Diagnostic Section, employing his laboratory technic as the internist uses his stethoscope, or the aurist uses his speculum, is so new that it may be some time before its advantages for the patient, for the physician, for the hospital, and for the pathologist himself, will be fully appreciated. On the other hand, it is strange indeed that physicians should think that a pathologist can any more easily, or intelligently, discern a patient's ills through the medium of correspondence, than can the symptoms of a patient be interpreted by a surgeon using similar methods. The patient's interests are undoubtedly better served from the pathological department if the pathologist, after writing an unbiased report, has the opportunity to reconsider it, to repeat his work when he sees the necessity, to make clear tests which may or may not verify the first, to make suggestions as to methods of collecting material for investigation, in order that it may be more appropriate for particular purposes; and best of all, he has the opportunity to see the case through the eyes of his colleagues, which gives him a broader medical perspective. It would seem that it is only justice to the patient, that the pathologist be granted the same privileges of checking his work as is afforded the clinicians.

There are some very important advantages from the standpoint of the Diagnostic Section, for they demand that the pathologist keep them daily informed as to the advisability of discarding certain tests, as to the value of certain reactions, as to the importance of recently reported laboratory tests, and as to their significance. This offers his colleagues an opportunity to keep abreast wtih the times in pathological matters while permitting them to spend the time formerly occupied in acquiring this knowledge in the pursuit of their own studies.

The hospital laboratory is improved as soon as the pathologist is called upon to assume a definite responsibility of which the other internists are entirely relieved. The complaints as to lost, delayed, or inaccurate reports disappear. Harmony is developed and apologies are unnecessary. The pathologist being in a position to avoid unnecessary work and unnecessary repetition of work, it is

possible for his assistants to give more time and consideration to problems having real clinical value.

The pathologist himself by meeting in the consulting room is able to acquire much knowledge from all branches of medicine from the discussions of his colleagues. This gives him a broader outlook in medicine, a greater opportunity to correlate his technical knowledge with the clinical aspect of the case, a greater incentive to pursue the literature in allied subjects, and an insight into problems for research.

In conclusion, it may be stated that the pathological department, like most other special branches of medicine, has been separated too far from the patient. It is likely that the profession will be long in appreciating the disadvantages of our present day methods, yet, by one hospital after another taking up more rational ideas of correlating the various departments, gradually the advantages of such progress will become obvious and these institutions will be repaid by bringing better results to its patients.

E. V. KNAPP, M. D.

CLINICAL INEFFICIENCY OF HOSPITALS AND A SUGGESTED REMEDY.

It is said that hospitals of the type of St. Luke's and St. Francis' are only boarding houses for the sick; that their departments of experimental medicine are unraveling no real medical problems; that the records of their clinical observations are incomplete, inaccurate and inaccessible; that the accomplishments of these hospitals add little or nothing to the progress of medicine; that too frequently, medicine far below the standard, is permitted to be practiced in these institutions. A hospital may have a magnificent building, beautifully equipped, and it may have an efficient staff which fills its beds with pay patients, and it may pay its stockholders large dividends, but unless its medical corps develops new medical ideas, clarifies old laws, shows reasons for discarding erroneous conceptions and publishes the facts so that they are available to the profession, the medical world will not recognize the institution as a producer. The hospital from a progressive medical standpoint has failed; patients will not realize results in relief and cures which they had reason to anticipate, and consequently, their enthusiasm for our methods in the healing art will wane.

Are the patients, the hospital boards, or the medical profession responsible for the present position these hospitals occupy in progressive medicine? The sick are clamoring for more attention, more investigation, and for better treatment. They are seeking the European clinics and the clinics of our own country. They are resorting to quacks, fakes and cults in order to get relief. If they were getting satisfaction from the profession, the humbugs would have less opportunity for disposing of their wares.

Yet the boards of managers of the hospitals have not appreciated the fact that their institutions to be most efficient, must "base the conduct of the financial affairs of the hospital with a view to obtaining the largest and best products for the community in the way of cures and results instead of as at present assuming that treatment by men of reputation is necessarily the best treatment."

On the other hand, the profession has many things for which it must be chastised. If the complaint of the patient is not frankly presenting, too often the individual is dismissed as a neurasthenic, a neurotic, an hysteric, or a crank, and the unfortunate tries the elixirs, the tonics and the cold tars; then a new doctor. All of these are repeated until at last the sufferer, becoming discouraged with our quackery, betakes himself to some of the cults. Why not? Is a victim of early pulmonary tuberculosis faring any better at the hands of the profession in being treated for psyconeurosis with bromides than he is in being massaged by an osteopath for a dislocated vertebrae? Is not the patient's confidence in his doctor misplaced when the physician discloses a very obvious pathological condition and immediately dismisses the rest of the individual's anatomy with but a cursory examination? Let us suppose the case to be a chronic appendix with an undiagnosed pulmonary tuberculosis. The unsuspecting surgeon recommends an operation to cure the dyspeptic symptoms and after it is performed, the patient is discharged with a clean bill of health, only to return with his former complaint. The surgeon is baffled. He cannot quite make out why this should be. He imagines the patient may have a few adhesions or else he is probably neurotic, more likely the latter. He fills him up on Blaud's pills, but still the patient continues on his downward course, cursing the surgeon because of his unimproved condition. This type of a mistake happens least often in the hands of an internist, more commonly with the general practitioner, and most frequently with the specialist. Again this same medical man may make a complete and thorough investigation of his patient, unearth all his present ills and make the proper recommendation. But too frequently he leaves the patient here. Re-examination is neglected; changes in existing pathological conditions pass unrecognized, and the onset of new lesions is overlooked. How often is empyema considered an unresolved pneumonia and gastric cancer still the old ulcer. This happens with the poorly trained physician; with the lazy medical man, and with the too busy practitioner who sees from 15 to 20 people during office hours.

Out in our neck of the woods all of these crimes have been committed and all have committed them. On account of these short-comings and the bad results thus produced, it seems to some of us that an effort should be made toward their solution, so more than two years ago the St. Luke's Hospital Clinical Club was organized. It was decided to meet on Friday after office hours to study cases. In the beginning Cabot's case histories and findings were read. The diagnostic probabilities were worked out on the blackboard and the autopsy report read, but it was soon evident that the case reports were incomplete and misleading. In addition, club members demon-

strated patients who presented difficult questions for diagnosis. The patient was presented, with a report of the history, ordinary physical examination, and the customary laboratory findings. Frequently, however, it was necessary to return the patient to his doctor with instructions for further investigation. At the next demonstration, it was observed not uncommonly that in order to clarify the case, it was advisable to have the opinion of some of the members of the club who had done special work, along the line the case indicated. The specialist often would return verbally a purely specialist report, the case remaining hazy and incomplete.

This forced the club to seek other methods for working up the cases. It was decided to organize members doing special work into a diagnostic section. Under this arrangement, the club members pooled patients for investigation.

At present, this work is being conducted on the following lines. The members of the Diagnostic Section examine the cases individually and make written reports. At noon each day, the section meets to discuss the cases. If at the first consultation a conclusion cannot be reached, the various members of the section suggest further investigation to be reported on the following day. The same procedure is followed day after day until a diagnosis is made, or until it is evident that a conclusion cannot be reached. The physician furnishing the case is invited to meet with the section on the last day of discussion. This method has given great satisfaction. A case is viewed from angles never seen before. It makes reasonably sure of no omissions. The case frequently drops into a department where it is not suspected that it belongs, and it is possible to advise patients more exactly as to their physical condition and more fully as to the probabilities of cure. The records of these cases and the details of the symptomatology, clinical and laboratory findings are filed and catalogued in order that members may derive the most benefit from the material.

To illustrate the necessity of this, I have made an analysis of our past histories. In the last 15 years St. Luke's has filed more than 24,000 case histories, enough material to make a system of medicine and surgery. Taking 100 of these case histories at random, that is, a few from each volume, it was found that not more than 1% had any real scientific value. In order to obviate this great waste of clinical material, it is proposed that a system be inaugurated, which may be called the banker's method.

The complaint of unwarranted operations, unnecessary exploratory incisions, inexcusable omissions and blunders will largely be eliminated as soon as those who do surgery insist upon a thorough and complete preoperative examination. It is conceded that surgical mortality can be lowered, and end results improved more by proper preoperative examinations than by any other method.

The public health reports, the daily press, medical lectures and demonstrations, instruction on prophylactic medicine, and social service work are disseminating general knowledge and consequently the laity is discriminating better between good and bad medicine. This factor, together with the various cults, which spring up and flourish for a time, only acts as a spur to the profession and tends to prevent procrastination, indifference and self-satisfaction. This only means that the process of discrimination will work slowly but persistently in the direction of elimination of the unprepared. Better medicine, however, must come from better methods of study. To the clinician the subject for study is the patient himself, and while academic knowledge is necessary, the ultimate progress in science of medicine must come from the careful co-relation of all clinical observations. The teaching in the medical colleges is responsible in no small way for the student's lack of appreciation of the value of preserving clinical material. If these students escape from the universities improperly instructed, it becomes the duty of the hospitals, for self-protection and for the good of medicine as a whole, to orient their patronage into the proper perspective. Hospitals which fail to recognize this important function will find in but a short time that they are falling into the same class that unqualified inferior medical colleges have fallen to-day.

For whatever progress St. Luke's Hospital Clinical Club has made, it is indebted to the Board of Directors for material aid; to the members of the staff for encouragement; to Dr. Read for compilation of the history form; to Dr. William Dorr for working out the details of the records, and to the profession who have submitted their cases.

F. W. Birtch, M. D.

THE ORTHOPEDIC DIVISION OF ST. LUKE'S HOSPITAL CLINICAL CLUB.

It is the purpose of this paper to show how the orthopedic specialist can help to make a complete, well-rounded diagnosis in an average as well as an obscure clinical problem. To accomplish this, we ascertain first what the patient complains of, and then endeavor to find any cause therefor in the patient's bone, joint or muscle system. Any deviations from normal in these systems, found to have a bearing upon the patient's illness, are studied, elaborated and recorded. After this is done, a general rapid survey is made of the patient as a whole, and any other defects of posture, standing, static faults of the feet, lower limbs or spine are noted, in addition to limitation of joint and muscle function, results of old traumatisms, such as fractures, even if they are not complained of at present and have evidently no relation to the present trouble. They may have weight, however, in summing up the case and estimatiing the prognosis. These facts are also of statistical value in gaining a knowledge of the amount of abnormality or defect existing, which may apparently be of no consequence to the patient.

As an example of this, we had an elderly, heavy-set man, suffering from liver trouble and broncho-pneumonia. In the course of my routine examination, I found that he had had infantile

paralysis in childhood, leaving him with one flail foot and the other with about one-half of the muscles alive. Yet, without braces, he had worked for years at the trade of blacksmith, even holding horses' feet between his knees in the familiar attitude. Facts like these are of value to orthopedists to broaden their conceptions of the end results of the diseases, treated usually in the active stage.

To study the question in detail, let us take up the spine first, and see some of its relations to ordinary medical problems.

I think we make some of our gravest mistakes in forgetting the axiom that there are two sides to every patient. Pain anywhere in the thoracic or abdominal cavities may have its sole origin in a spinal disease or injury, causing pressure on the spinal nerves at their roots, the pain being referred to the nerve terminals anteriorly. I venture to state that four-fifths of the cases of spinal tuberculosis have been treated for affections of the thoracic or abdominal viscera, at a state when an orthopedic examination of the spine could have revealed the true source of the pain. On the other hand, a persistent backache may be due solely to some trouble of the abdominal or pelvic viscera, such as ptosis, for example, causing strain upon their ligamentous attachments to the spine.

Our orthopedic examination of the spine, then, should determine positively the presence or absence of:

1. Disease of the vertebral column, either tuberculosis, osteoarthritis or the less common bone diseases.

2. Similar diseases in the shoulder girdle, ribs or pelvic girdle. Especially in the last we watch for relaxation or mobility of the sacroiliac joint, which may simulate disease of the pelvic viscera, or complicate pregnancy and the menses.

3. Affections of the muscles or ligaments of the spinal region, such as traumatism, sprains, strains, toxemias, lumbago, etc.

4. Affections of the spinal cord, membranes or roots, from tumor growths, syphilis, etc.

5. Static errors, such as may be due to a short leg, knock knees, valgus ankles or flat feet, all causing strain on certain sets of muscles, which, in striving to preserve the equilibrium, are not competent for the task.

No examination of the spine is complete without an examination of the lower limbs, especially the feet.

Inequality of 1-3 cm. in the length of the legs is far more common than ordinarily supposed, and sometimes—not always—causes pain in the lower spine or pelvic regions. Knock knees may do the same thing, but offers no difficulty in diagnosis. Consideration of the feet, however, is all important, and often reveals surprises even to the orthopedist, whose very title is commonly (although erroneously) supposed to be derived from the Latin word for foot. As Whitman says, the foot is a lever, by means of which, the weight of the body is lifted and propelled. If loosely constructed or insufficiently supported by its ligaments, the foot cannot be properly controlled by the muscles. This means eventually muscle spasm, fatigue and pain of varying amount. The muscles affected may not necessarily be attached to the foot, but may be in the neighborhood of the hip joint, lumbar spine, or even the shoulders, but nevertheless are muscles concerned in maintaining balance, i. e., preserving the erect position of the body upon the feet. Consequently, a distressing lumbago may resist all attempts at relief; the feet may be painless and arches high, but still the insertion of arch-supports relieves an unsuspected arch-strain, and lumbago vanishes. A clew to the right diagnosis of referred pain due to arch strain when the arch may be normal or even higher than normal, is the fact that the occupation is apt to be one requiring much standing. Usually, however, the diagnosis is easy, a history of foot strain being present, with pains up the limbs, thence to the spine and as far as the neck in some cases.

One of our cases had had a ventro-suspension for backache with no relief. Orthopedic examination, however, revealed pronated feet and lowered tonicity of spinal ligaments and muscles. Arch supports and a long reinforced corset have relieved the condition.

Our orthopedic examination of the spine is of assistance in interpreting pain symptoms of many visceral diseases, such as pleuritic pains, intercostal neuralgia, deep pains of aneurisms, inflammation of the kidney or spleen, pain under the right shoulder-blade, due to an enlarged gall-bladder, or under the left shoulder-blade, due to an overloaded heart; pain in the lumbo sacral region, due to disease or displacement of the pelvic viscera.

In none of these symptoms, is loss of spinal mobility present, neither are the curves of the spine altered, hence spinal involvement is ruled out and attention is fixed upon the offending viscus.

Leaving the weight-bearing mechanism, let us consider "rheumatism," which I still find a convenient term to designate the non-tubercular chronic arthritis, either villous, hypertrophic or atrophic. They present every grade of insidiousness of inception and chronicity of course, and by their slow, baffling onset, with months of pain before slight swelling, limitation of motion or X-ray changes give a clew, they tend all too often to wear out the patient's fortitude or mental resistance to the disease, and leave him a so-called neurasthenic, before the diagnosis becomes easy or well-established.

Here orthopedic methods of examination help greatly to make an early diagnosis and to forecast the probable severity and length of the disease. Much of the treatment is of an orthopedic character, but that is not in the scope of this paper.

To conclude: I hope I have made clear to you how a routine orthopedic examination of the ordinary patient is of definite value in making a complete diagnosis. Sometimes it reveals unsuspected factors of importance, other times rules out factors which can be shown to be insignificant. Almost always it can help in an estimation of the prognosis, or extent and period of disability, by the

opinion given concerning the condition of the joint, skeletal and muscle systems.

By the continuous, daily consultations, some of the orthopedic viewpoint is given to the other clinicians, and in exchange the orthopedist receives much of their viewpoint. As a result, each clinician tends to get a proper perspective of the patient as a whole, and the values of separate symptoms run less danger of being minimized or exaggerated.

In the old days, the sick person could demand that his medical attendant should know all there was to know about the healing art. In present times, a few deluded or ignorant ones still expect omniscience from their medical adviser, but very few. Medical science is widening its boundaries at such a tremendous rate that the number of recognized specialties may be doubled in the next twenty years, as it has much more than doubled in the last twenty.

The laity see this and know that it is for their good. They object principally to the expense and time involved in obtaining a complete examination.

By thus superimposing the pictures and viewpoints of the various specialists, we obtain a composite picture or diagnosis, far more valuable to the patient, with less trouble and expense.

GEO. J. MCCHESNEY, M. D.

THE SO-CALLED NEURASTHENIC PATIENTS FROM THE NEUROLOGICAL DIVISION OF ST. LUKE'S HOSPITAL CLINICAL CLUB.

Of the patients who present themselves for investigation to an organization like the Diagnostic Section of the St. Luke's Hospital Clinical Club it is to be expected that quite a large proportion will offer some unusual difficulties in diagnosis. Our experience, to date, has demonstrated this to be true. Some of the individuals have required numerous examinations and re-examinations made in the light of new evidence obtained by consultation with our associates. Only by this extreme care have we been able to discover the truth in some of the more puzzling cases.

In not a few instances these patients have been those who were ranked as chronic complainers. Patients, to whom the medical man was no stranger. Indeed, the search for health had taken a number far from medical supervision into fields where the physician is looked upon as a co-worker of Satan and drugs as deadly poison. To most of these patients the careful and thorough examination seemed a welcome surprise and served to again create a feeling of confidence in things medical. It also suggested the difficulties which the case presented and thus, happily, aided in removing any feeling of dissatisfaction which may have been engendered toward former medical advisors.

The examinations are conducted in a quite impersonal way. This has a certain value in work of this kind for the attention of the patient is directed to the methods employed rather than to the person employing them, and little opportunity is given for personal repartee which so often diverts the attention from the point at issue. The individual returns to his physician with little remembrance of the examiners much in the same state of mind as that in which he would return after leaving a specimen of blood or sputum at a laboratory with instructions to send the report to his doctor. The object of this paper is to call attention to one type of patient which has formed no small proportion of our first series since this type affords an opportunity of demonstrating the value of the method which has just been brought to your notice.

Of the many diagnostic pitfalls which stand ready to ensnare the medical man perhaps there are none which he must be more careful to avoid than the one lurking behind the name Neurasthenia. For more than two decades leaders of medical thought have debated as to the right of this uncertainly defined condition to an existence as a separate clinical entity.

That Neurasthenic states frequently exist will scarcely be denied by anyone but more careful examination of the Neurasthenic individual has disclosed, time and again, definite pathological conditions, upon which, to a very large extent, the asthenia depended. Appreciation of this fact by the profession has been followed by a diminution in the number of Neurasthenics occurring in daily practice but, unfortunately, instances are not uncommonly observed in which the effort to fix the blame upon some organic disturbance has resulted in an attack, surgical or medical, upon some discovered anomaly which had nothing whatever to do with the neurasthenic state. Thus Aschaffenburg remarks, "The time has fortunately passed in which every nervous woman had to have her womb curetted or pessaries inserted, or had to undergo ventral fixation or even castration. Nevertheless, we still find too many patients who have undergone serious abdominal operations, have had the appendix removed, or have been operated upon for ulcers of the stomach or gall-bladder troubles, though no serious disease was ever present."

Broadly speaking, Neurasthenia may be briefly defined as a physical state in which there is a diminished capability on the part of the affected individual to cope with the customary duties in and ex-corpora consequent upon his existence. He tires easily, recuperates slowly and is little inclined to attempt work requiring much thought or physical exertion. To these symptoms there is often added a tendency to attach undue importance to those demonstrable ailments which may be present. Any inherent psychopathic defect asserts itself and there may come to exist an almost incomprehensible jumble of mental and physical symptoms and complaints to listen to the recital of which taxes the forbearance of the most patient.

Perhaps time and careful investigation will show that those individuals in whom the Neurasthenic state takes root are in reality the subjects of an hereditary state whereby the tissues, especially the nerve structures, are incapable of quickly restoring themselves after the expenditure of energy. This would be in accord with the exhaustion theory

of Edinger to the elucidation of which Auerbach has recently brought new evidence.

Regardless, however, of the inherent tendencies of these patients one will only be following in the direction dictated by accrued experience in asserting that the Neurasthenic, when he seeks the help of the physician, always has something else wrong with him. Usually this "something" produces symptoms altogether out of proportion to the extent of the pathological lesion present and of a character which tends to divert the attention from the real cause.

The untimely selection of improper methods of treatment is due, in many instances to a lack of appreciation of the fact that certain diseases cause an asthenia as part of their symptomatology. Among these may be mentioned syphilis, tuberculosis, disorders of digestion and nutrition, arteriosclerosis, kidney insufficiency, infections, glandular disturbances, etc. There is often a tendency to confound hysteria and mild psychoses with the Neurasthenic state. Again it is so easy to prescribe rest, diet and tonics, with the result that the consequent temporary improvement gives ground for the belief that the diagnosis was correct and no further attempt is made to discover the real cause.

True, there are some conditions resembling the common descriptions of neurasthenia in which it seems impossible to place the finger upon anything tangibly pathologic but it is manifestly incorrect to state that there is no organic disease present until the individual has been subjected to the most searching examination. When this has been done the proportion of cases in which no causative factor can be found will be too small for consideration.

In our first series of fifty cases there were twelve which gave as the complaint nervousness or nervousness and weakness. Of these there were nine which, at some time or other, had been called Neurasthenics.

When tested in the crucible of the complete examination three were found to be the subjects of pulmonary tuberculosis, two of hyperthyroidism, two of arteriosclerosis, one of visceroptosis, one of chirrosis of the liver, one had a sacralized fifth lumbar vertebrae, one was an hysteric and the twelfth developed acute mania while in the hospital.

Of three cases where nervousness was only one of the complaints one had pulmonary tuberculosis, hyperthyroidism, enteroptosis with achylia, duodenal ulcer, bacillary infection of the urinary tract, and stones in the bladder.

A second had hyperplastic goitre, achylia, visceroptosis, adhesions about the appendix region, and chronic constipation.

The third had enteroptosis, kidney insufficiency, chronic follicular tonsillitis and syphilitic leptomeningitis.

From this cursory review of one of the most important chapters in medicine can be drawn a timely lesson. If patients having as much real disease, as had those who suggested this paper, are allowed to pass from doctor to doctor without receiving any other solace than that derived from being told that they are Neurasthenics with the added implication that they only think that they are sick, then Medicine has fallen far short of her real destiny. Can these people be blamed for their loss of faith in therapeutic measures misapplied? Is it any wonder that they seek the comfort offered by fantastic beliefs which, for a time at least, raise a feeling of hope?

In a number of the cases referred to it was only with difficulty that anxious relatives could prevail upon the sufferer to again seek medical advice, and it was a source of great satisfaction to note the gradual change in the mental attitude of these patients as the examination approached completion. Perhaps they felt that much of the distrust with which they looked upon medical work had been due, not to the deficiency of medicine as a science, but rather to the incompleteness of its scientific application. It is not too much to hope that with the development and spread of this idea in medical work many of those who now seek relief in barren fields may be reclaimed to medicine and become her staunch supporters.

T. G. INMAN, M. D.

A BRIEF REFERENCE TO THE BACTERIOLOGY OF NASAL SINUS DISEASES.*

By J. J. KYLE, M. D., Los Angeles.

The following was not received in time to appear in an earlier issue. The original article appeared in the June issue, page 238, entitled "A Brief Reference to the Bacteriology of Nasal Sinus Diseases." By Dr. J. J. Kyle.

Discussion.

E. C. Sewall, M. D.: I wish to congratulate Drs. Horn and Victors on the excellent work they have done and the very clear exposition of the same that they have given us.

The claims of Perez and those who have carried on this work, came to us originally, as a very distinct shock to our preconceived ideas to the curability of true ozaena. We have now enough evidence placed before us, to cause those of us who "don't know" to "find out" and I trust, that experience may substantiate the results that have been reported here. I would ask Dr. Horn if he has noted the unusual difficulty in penetrating the bone with the puncture needle in old ozaena cases, in diagnosing the condition of the antrum?

Regarding Dr. Kyle's paper, I understood him to say that the longer a case of ozaena has run, the worse the condition of the nose as to crusts: I believe I am correct in stating that, except for atrophy of the bony structures, the other conditions are improved in old cases that might be said to have "run their course."

C. F. Welty, M. D.: My first remarks will be directed to the illumination test for the antrum of Highmore; it is neither reliable in a positive nor a negative way.

In regard to the X-ray for the antrum of Highmore, will say that it is more reliable than the illumination test.

A sinus that has once been infected produces

a positive finding in many cases. I am of the opinion that a certain change takes place in the mucous membrane, producing the characteristic findings. This has been verified by probe puncture on many different occasions.

Now if this is so for the antrum of Highmore, it is doubly true for the frontal sinus, because the frontal sinus is anatomically built to drain itself if there is sufficient opening.

In regard to the bacteriology of the class of cases that Doctor Kyle refers to, I will say that I have yet to see an acute antrum of Highmore from infection by puncture and washing.

These cases should not be subjected to the intranasal operations so quickly, as the nose is permanently impaired.

In regard to the ozaena question, I wish to compliment Drs. Horn and Victors on their painstaking work; it will undoubtedly yield good results. However, in conclusion, Dr. Horn states that the cases should be operated first and then the vaccine used. This is practically what I have contended for some time past. In other words, you cannot destroy polypi and caries (clinical ozaena) by the use of vaccines any more than you can cure a chronic suppurative otitis media by the injection of carbolic acid.

B. Jablons, M. D.: In connection with the bacteriology of ozaena, I would like to ask Drs. Horn and Victors whether they have attempted isolation of the infecting bacterium after previous inoculation with a stock vaccine? It has been proven that it is much easier to isolate an organism very often after an inflammatory reaction has taken place.

With regard to the treatment of these conditions with vaccine, I wish to take issue with Dr. Horn on this subject,—the idea of using large doses which is fraught with a great deal of danger. We know that proteid bodies of whatever nature are more or less toxic, and the more proteid we introduce into the body, the more toxin do we introduce into the body. The effects that we observe very often, following the inoculation of large doses of vaccine, may be attributed entirely to the poisoning of the body with large doses of toxic proteid. Many times it is sufficient to inject small quantities, often repeated in order to obtain the proper response on the part of the defective mechanism of the body.

M. W. Fredrick, M. D.: I would like to ask Dr. Horn what local treatment he uses in connection with the vaccine? Anything as stubborn as ozaena has naturally called for a large number of different kinds of treatment, most of which were merely palliative. Even with the use of the vaccine there must be some local measures which will support the vaccine treatment. Cleanliness is, of course, and always has been, our most reliable measure, but there may be some topical application that would be valuable in assisting the mucosa to the resumption of a healthy function.

Jno. J. Kyle, M. D.: One point mentioned by Dr. Horn was to the effect that these cases must have a sickening odor. If you are treating these cases, the odor will practically disappear, but if the case goes on for a few weeks, without treatment, the odor returns. I have found what I think is the Perez bacillus. There is no question but that in many of these cases of ozaena we find a condition of sclerosis of the bony structures of the nasal cavities.

I wish, with Dr. Welty, to pay my respects to Dr. Horn's untiring efforts, in trying to solve the question of ozaena, and I have been greatly benefited by his notes regarding the matter in question, and by Dr. Horn's and Dr. Victor's remarks relative to the mobility of the organism. I think I can now tell the Perez bacillus from the Friedlander.

Closing remarks by Dr. Henry Horn: There are so many phases of this subject, that in a paper to twenty minutes, one cannot go into the subject in detail. The final report will be very extensive, and you will find that all of the questions which have been asked have been fully considered. One point I overlooked which I wish to mention, and which was one of the most interesting things that came out during the entire investigation. It is really so important that it deserves far more study, but I am going to report it to you just as the matter stands at present. At the University of California, all cases of syphilis are handled by Dr. Lisser. He was kind enough to collect all of his cases of syphilitic ozaena for my examination. I do not think syphilis has anything to do with true ozaena. This question is discussed in detail in my paper. Salvarsan is of no value in the treatment of pure ozaena. I would like before I close to give one case history:

A girl came to me September, 1915, after being treated for ozaena for years. The odor was so terrible that you could hardly remain in the same room with her. She had a typical saddle nose, yellow skin, and much under weight. I was requested not to suggest an unfavorable prognosis, as she was suffering from a profound melancholia, and had threatened suicide. I gave her in all nineteen injections of our mixed ozaena and the Saturday before I came down here, she called to see me. I found her color good, her breath sweet, a gain of 19 pounds and no crusts.

Another case, that of a dentist 27 years of age, who had been compelled to give up his practice. I gave him fourteen injections, and he remained away from my office three months, and when he came down the other day, I could detect no odor and I consider the man clinically cured.

I do not claim any bacteriological cures at all. The cases which came for examination just before this meeting will all be re-examined. If we do not find any Perez bacillus present we will consider them temporarily cured. I consider a case clinically cured when, after an absence of three to six months without treatment, they return free from odor and crusts. Of the permanency of the cure, nothing can be said at this time. The limitations of vaccine therapy are too well known to make it necessary to suggest caution, as to the ultimate favorable prognosis. What I do believe, however, is that we have, in our mixed ozaena vaccine, a powerful therapeutic agent, worthy of a fair and impartial trial.

Closing remarks of Ernest A. Victors, M. D.: In answer to Dr. Jablon's question—we had, in several instances, isolated the organism after vaccine injections when pre-vaccine examinations were negative. Special vaccines have not been used.

BOOK REVIEWS

Manual of Practical Nursing. Prepared for the Washington University Training School for Nurses in the Barnes and St. Louis Children's Hospitals. Edited by Helen Lillian Bridge, B. S., R. N. St. Louis: C. V. Mosby Company, 1916.

This manual was prepared for use in the Washington University Training School for Nurses at the Barnes and St. Louis Children's Hospitals. In spite of its applying specially to the services in these hospitals it contains such excellently clear and explicit directions for the daily ward work of a nurse that it cannot fail to prove of interest to those in charge of other training schools. It would be good if all large hospitals issued similar printed manuals for which this little book might well serve as a model. L. E.

Infections of the Hand. A Guide to the Surgical Treatment of Acute and Chronic Suppurative Processes in the Fingers, Hands and Forearm. By Allen B. Kanavel, M. D., Assistant Professor of Surgery, Northwestern University Medical School; Attending Surgeon, Wesley and Cook County Hospitals, Chicago. New (3d) edition, thoroughly revised. Octavo, 498 pages, with 161 illustrations. Cloth, $3.75 net. Lea & Febiger, Publishers, Philadelphia and New York, 1916.

It is a pleasure to see that this excellent monograph has again reached a new edition. The new anatomical plates are much handier to use than the old ones; a new chapter on the "Relation of Acute Infective Processes to Industrial Pursuits" gives statistical information of interest to men doing industrial accident work.

There is scarcely a surgical condition equal in frequency and economic importance to infections of the hand, nor one where mistakes in treatment more commonly do harm. The general practitioner will find the book a useful and convenient guide in overcoming the difficulties that beset these cases; its explicitness and thorough anatomical studies will make it a standard for a long time to come. We can again heartily recommend it to students, surgeons and general practitioners alike. L. E.

Embryology, Anatomy, and Diseases of the Umbilicus Together with Diseases of the Urachus. By Thomas S. Cullen, Associate Professor of Gynecology in the Johns Hopkins University. Large octavo of 680 pages with 269 original illustrations and 7 plates by Max Brodel and August Horn. Philadelphia and London: W. B. Saunders Company, 1916. Cloth, $7.50 net; half morocco, $9.00 net.

From such a great authority as Thomas S. Cullen one would naturally look for a book expounding chiefly the views and the experience of the author himself, with each pathological or clinical condition illustrated by one or two typical case-histories; this would vividly bring out the personality of the author and give greater unity, force and weight to the whole work. Cullen has preferred instead to efface his personality and contents himself to a great extent with merely reflecting the views of many different men and with enumerating an immense number of cases gathered from all sources obtainable. This, of course, enormously swells the size of the volume, resulting in its becoming a compilation of seven hundred pages of everything that has ever been reported on the umbilicus.

The finest parts of the work, in my opinion, are the first chapter on the embryology of the umbilicus, its beautiful colored plates, the best and most instructive I have ever seen on this subject, being especially worthy of mention; the chapter on the remnants of the omphalo-mesenteric duct, and all the chapters on the urachal rests. The space devoted to such topics as Meckel's diverticulum and umbilical hernia is rather scanty for a work of such encyclopedic size, and would scarcely suffice for the guidance of the surgeon.

This book may be considered as a complete catalogue of all the pathological conditions of the umbilicus and should be of great value as a standard and reference for the teacher, the obstetrician, the gynaecologist and the museum curator. P. S. C.

SOCIETY REPORTS

MARIN COUNTY.

The June meeting of this Society was held at the home of Dr. L. L. Stanley, San Quentin, Cal., June 8th, 1916. The speaker of the evening was Dr. R. L. Rigdon of San Francisco. The topic was Diagnosis of Surgical Affections of the Kidney, illustrated by radiograms. The July meeting of this Society was held at the home of Dr. A. H. Mays, Sausalito, Cal., on July 13th, 1916. We had the pleasure of having with us Dr. Leo Eloesser, who had recently returned from Germany. Dr. Eloesser gave a very interesting talk on war-fractures of the femur, also the tibia and fibula, illustrated by radiographs and tracings. Dr. Eloesser also exhibited a number of fragments of shells which had been extracted from operative wounds. We were given an impromptu talk on carbuncle by Dr. Thomas W. Huntington.

Respectfully yours,

O. P. STOWE, Secretary.

MENDOCINO COUNTY.

The President, Dr. C. L. Gregory, called a meeting of the Society for the evening of the 8th of July at Fort Bragg. It was held in the office of Dr. F. McLean Campbell. Those present were Drs. F. McL. Campbell, C. L. Sweet, F. C. Piersol, H. Peddicord and O. H. Beckman.

A banquet in the Hospital Building, preceded the meeting, and I must say that Dr. Campbell's cook is a master in the culinary art, and so is the doctor in hospitality.

On account of a Railway Surgeons' meeting on the same date, the attendance was not what had been expected, but the lack in numbers was made up by geniality.

The meeting came to order with our host of the evening—Dr. Campbell—occupying the chair. The paper for the evening—"Abortion, and some suggestions how to lessen criminal abortions"—was read by Dr. Beckman. Among other interesting subjects and cases discussed, Dr. Campbell described that of a 13-year-old girl who had been sick with influenza. Later on general peritonitis developed and laparotomy had been performed to relieve conditions. At the autopsy the left ureter was found blocked, with the kidney very much enlarged and containing nothing but pus.

OSWALD H. BECKMAN, Sec.

SACRAMENTO COUNTY.

Regular July meeting called to order by Dr. J. W. James, vice-president. Minutes of last meeting read and approved. Cases reported, none. Paper of the evening, Recent Work in Epilepsy, by Dr. E. W. Twitchell. Discussed by Drs. Seavey, Barnard, Lindsay, Howard, Gundrum. Closed by E. W. Twitchell. Application of Dr. P. M. Thomas read. Report of Board of Directors heard. Moved, seconded and carried that August meeting be omitted. Dr. Twitchell reported progress from the Medical Milk Commission. Adjourned.

F. F. GUNDRUM, M. D.,
Secretary-Treasurer.

OFFICERS OF SECTIONS OF STATE SOCIETY.

Eye, Ear, Nose and Throat Section—Chairman, B. F. Church, Redlands; secretary, Dr. G. P. Wintermute, San Francisco.

Obstetrics and Gynecology—Chairman, E. N. Ewer, Oakland; secretary, A. B. Spalding, San Francisco.

Genito-Urinary—Chairman, Victor G. Vecki, San Francisco; secretary, W. E. Stevens, San Francisco.

Nervous and Mental Diseases—Chairman, A. W. Hoisholt, Napa; secretary, J. Ross Moore, Los Angeles.

SOCIAL INSURANCE.

The following committee on Social Insurance has been appointed for Sacramento County: E. M. Wilder, chairman; W. A. Beattie, J. Parker Dillon.

STANFORD UNIVERSITY MEDICAL SCHOOL. STANFORD CLINICAL SOCIETY.

The Cooper Clinical Society has been reorganized and the name changed to "The Stanford Clinical Society." The meetings are held on the first Monday of each month at the Clinical Building of the Medical School, Sacramento and Webster streets, at 8:15 p. m.

The members of the State Medical Society of California are cordially invited to attend the meetings.

The first meeting of the year will be held on Monday evening, September 11, 1916, at 8:15, and Dr. A. W. Hewlett, Professor of Medicine, will discuss the following subject: "The Toxic Effect of Urea on Normal Individuals."

HARRY E. ALDERSON, President.
GEORGE D. BARNETT, Secretary.

NAVY RESERVE.

Washington, July 17, 1916.

At the examination recently held in various cities throughout the United States the following named medical men successfully passed the examination for appointment as assistant surgeon in the Medical Reserve Corps, with a view to subsequent examination for appointment in the Medical Corps of the Navy:

James A. Halpin, M. D., Washington, D. C.
William D. Heaton, M. D., Wahoo, Neb.
Aubrey M. Larsen, M. D., Salt Lake City, Utah.
Lincoln Humphreys, M. D., Argenta, Arkansas.
Theo. Edward Cox, M. D., Cleveland, Ohio.
Arthur W. Hoaglund, M. D., Minneapolis, Minn.
Carroll H. Francis, M. D., Camden, N. J.
Harold L. Jensen, M. D., San Francisco, Cal.

REPORT OF THE MEETING OF THE STATE BOARD OF HEALTH ON AUG. 5, 1916.

The regular monthly meeting of the State Board of Health was held at Sacramento on August 5, 1916. The following members were present: Drs. George E. Ebright, F. F. Gundrum, Edward F. Glaser, Robert A. Peers and Wilbur A. Sawyer.

Three appointments were made to fill vacancies on the regular staff. Nine inspectors were appointed to serve without pay from the state in controlling typhoid fever in the West Side oil fields of Kern County. These men are under salary from the county and cities involved. The temporary appointment of eight men as health inspectors for the purpose of excluding poliomyelitis cases and contacts by inspecting transcontinental trains was confirmed.

By the following resolution the State Board of Health changed its system of preventing the introduction of poliomyelitis into California, and adopted a method uniform with that in Oregon and Washington:

"Resolved, That the transcontinental railroads entering California be requested to co-operate with the State Board of Health by having their conductors and station agents notify local health officers, on cards furnished by the board, of the arrival of travelers from points in which poliomyelitis is epidemic, in uniformity with the procedure now in effect in Washington and Oregon; and be it further

"Resolved, That the present system of border inspection by employees of the Board, be discontinued on August 25th, if the arrangement with the railroads has been consummated."

Regulations for the prevention of poliomyelitis were amended and adopted by the board.

A petition was received from citizens of Modoc County asking the board to continue the quarantine against rabies. The following action was taken:

"Resolved, That the quarantine against rabies in Modoc and Lassen counties is necessary and shall be continued until six months after the last reported case."

The failure of certain health officers to comply with the law by reporting cases of communicable diseases to the State Board of Health was discussed, and the following resolution was adopted:

"Whereas, Dr. Harry O. Hund, health officer of Ross; Dr. J. C. Bainbridge, health officer of Santa Barbara County; Dr. W. E. Downing, health officer of Rio Vista; Dr. S. McL. Doherty, health officer of Napa County, and Dr. J. W. Reese, health officer of Perris, have failed to file any reports regarding the presence or absence of communicable diseases during the months of April, May, June and July, 1916, in accordance with the law, although repeatedly warned; therefore be it

"Resolved, That the local authorities be requested to remove them from office and to appoint efficient health officers in their places, and that the names of the delinquents be published in connection with the minutes of this meeting."

On the recommendation of Mr. C. G. Gillespie, Director of the Bureau of Sanitary Engineering, the following permits were granted:

To the City of Santa Rosa, a temporary permit to supply water.

To the Visalia City Water Company, a permanent permit to supply water.

To the City of Kingsburg, a temporary permit to dispose of sewage on its sewer farm.

To the City of Kingsburg, a temporary permit to supply water.

To the City of Lompoc, a permanent permit to dispose of sewage into Santa Ynez River after clarification.

The use of sewage in irrigating green vegetables was forbidden in the following resolution:

"Resolved, That sewage or sewage-polluted water shall not be used for irrigating vegetables, berries, low-growing fruits, or green corn intended to be used for human consumption; and be it further

"Resolved, That sewage or sewage-polluted water may be used for irrigating vegetables or grains which are harvested in the dry state, such as beans; or vegetables, grains, or alfalfa used exclusively as food for stock, with the exception that dairy cattle shall not be pastured on land under irrigation by sewage; or trees bearing fruits or nuts."

The use of human excreta, or night-soil, in fertilizing or irrigating vegetables or fruits was forbidden by resolution.

It was ordered that the attention of local health officers be called to the fact that the discharge of sewage through wells into ground waters is in violation of the law, and that health officers be instructed to take such legal steps as may be necessary to cause the abatement of the practice.

The offer of the Chlorine Sterilization Equipment Company to loan to the State Board of Health a portable liquid chlorine machine for use in the emergency sterilization of public water supplies was accepted, and the thanks of the Board were extended to the Company.

Certificates as registered nurse were granted to 152 nurses who had passed the examination held by the Bureau of Registration of Nurses on June 13 and 14, in Los Angeles, San Francisco and Sacramento. Out of 197 applicants the above number passed. One certificate was granted through reciprocity.

The Sierra Hospital at Sonora was accredited as a school for nurses for one year.

Hearings were then held in cases of alleged violations of the foods and drugs act and appropriate actions were taken.

W. A. SAWYER, Secretary.

DEPARTMENT OF PHARMACY AND CHEMISTRY.

Edited by FRED I. LACKENBACH.

(Devoted to the advancement of Pharmacy and its allied branches; to the work of the Council on Pharmacy and Chemistry of the American Medical Association, and to matters of interest bearing upon the therapeutic agents offered to the medical profession. The editor will gladly supply available information on matters coming within the scope of this Department.)

NEW AND NONOFFICIAL REMEDIES.

Since publication of New and Nonofficial Remedies, 1916, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

Mead's Dry Malt Soup Stock.—A mixture containing desiccated maltose and desiccated dextrin (about equal parts) 47 per cent., wheat flour 47 per cent., potassium carbonate 1 per cent., and moisture 5 per cent. Mead Johnson & Co., Jersey City, N. J. (Jour. A. M. A., May 20, 1916, p. 1623).

Phenolphthalein-Monsanta. — A non-proprietary preparation of phenolphthalein admitted to New and Nonofficial Remedies (Jour. A. M. A., May 20, 1916, p. 1623).

Enteric Coated Glycotauro Tablets.—Each tablet contains glycotauro 2 grains and is coated with salol. Hynson, Westcott & Co., Baltimore, Md.

Petroagar.—Each 100 gm. contains petrolatum 72 gm., agar 22 gm. with powdered licorice, cocoa and oil of anise sufficient to flavor. H. C. Merker Co., Chicago, Ill.

Petrobran.—Each 100 gm. contains petrolatum 74 gm., bran 22 gm. with powdered licorice and "oil of pineapple" (ethyl butyrate) sufficient to flavor. H. C. Merker Co., Chicago, Ill. (Jour. A. M. A., June 10, 1916, p. 1857).

ITEMS OF INTEREST.

Vaccine Treatment.—Hektoen (Jour. A. M. A., May 20, 1916, p. 1591) traces the stages by which vaccines, which were first employed with attempted scientific control, have come into indiscriminate and unrestrained use, with no guide beyond the statements which commercial vaccine makers are pleased to furnish with their wares. Already most physicians are realizing that the many claims made for vaccines are not borne out by facts, and that judging from practical results there is something fundamentally wrong with the method as at present so widely practiced. As clearly shown by Hektoen, "the simple fact is that we have no reliable evidence to show that vaccines, as used commonly, have the uniformly prompt and specific curative effects proclaimed by optimistic enthusiasts and especially by certain vaccine makers, who manifestly have not been safe guides to the principles of successful and rational therapeutics" (Jour. A. M. A., May 20, 1916, p. 1625).

English Prescriptions.—Bernhard Fantus, professor of pharmacology and therapeutics, University of Illinois School of Medicine, favors the abandonment of the so-called 'Latin" prescription. He holds that the usual arguments in favor of the "Latin" prescription are fallacious and points out the advantages of the use of English. He concludes: "By far the most important reason for writing prescriptions in English lies in the difficulty medical students have in learning the Latin form. To the student prescription writing is a bugbear. When one thinks of the crowded medical curriculum and the comparatively small number of hours set aside for pharmacology and therapeutics, it seems a pity to waste any of it on the acquiring of an antiquated form of expression." In regard to the claim that Latin prescriptions guard a patient from knowledge which might be prejudicial, he replies: "Inasmuch as it is the popular opinion that doctors use Latin in prescription writing to keep the laity in ignorance for selfish ends, it seems high time that we antagonize this idea; and we can do this most emphatically by using English. This we can also do with perfect safety, for secrecy is very rarely, if ever, essential in the practice of the up-to-date physician, who generally prefers to take his patient into his confidence than to keep him in ignorance. Deception is not practiced by the true physician. Therein lies the special difference between the quack and the honest medical man" (Jour. A. M. A., May 27, 1916, p. 1696).

Ichthyol.—The American agent for Ichthyol—the sole importer—announces that his supply of Ichthyol is exhausted. As fraudulent substitutes are offered for sale, this state of affairs should be known to physicians (Jour. A. M. A., May 27, 1916, p. 1734).

Nonspecific Treatment of Diseases.—Evidence is accumulating that certain therapeutic effects ascribed to specific treatment with vaccines or serums, have been due to nonspecific effects produced by these preparations. Jobling and Peterson (Jour. A. M. A., June 3, 1916, p. 1734) review the evidence along these lines. They conclude that too much reliance has been given to the idea of specificity and that we have refused to consider evidence of nonspecific therapeutic results. We should, however, not cast aside all ideas of specificity in disease, a conception which has been the foundation of vaccine therapy. Miller and Lusk (Jour. A. M. A., June 3, 1916, p. 1756) in a paper dealing with one phase of nonspecific therapy, report improvement in cases suffering from arthritis following intravenous injection of typhoid vaccine. It would be of interest to know how permanent the improvement was and in how many cases the cause of the arthritis was found and removed. Also, we must bear in mind the query of Theobald Smith: How much energy does a reaction of this sort cost the patient, and is the final result worth the cost? (Jour. A. M. A., June 3, 1916, p. 1784).

A Case of Beta-Eucain Poisoning.—T. G. Orr, Kansas City, Mo., reports a case of beta-eucain poisoning. Toxic symptoms appeared after an operation in which 3 ounces of a 0.25 per cent. beta-eucain hydrochloride was used for the local anesthesia. After the toxic symptoms had completely disappeared, the patient died suddenly five days later. Necropsy showed an embolus in the left coronary artery (Jour. A. M. A., June 10, 1916, p. 1857).

Efficiency and Nontoxicity of "Arsenobenzol."—Udo J. Wile, Ann Arbor, Mich., reports that during the last six months 612 injections of "Arsenobenzol" from the Philadelphia Polyclinic have been administered at the University of Michigan Hospital. Wile concludes that the immediate therapeutic results from the use of Arsenobenzol are fully as good as those following the use of Salvarsan and that, given with proper precaution, the drug has shown itself fully as little toxic as Salvarsan. The conclusions refer to intraspinal medication as well as to intravenous (Jour. A. M. A., June 10, 1916, p. 1880).

Controlled Clinical Trials.—At the "Cardui" trial, which is now in progress, A. S. Loevenhart, Professor of Pharmacology and Toxicology at the University of Wisconsin, testified as to the conditions under which the clinical trial of a medicine would give results as certain as those yielded by

the usual pharmacologic methods. Professor Loevenhart had testified that he preferred his students to be familiar with drugs, the value of which had been clearly worked out by accurate clinical methods and shown to be useful in the treatment of disease. Asked as to the character of the clinical trials required to demonstrate the value of a drug, he held that there was no difference between a careful clinical test and a careful pharmacological test. Loevenhart explained that to determine if Wine of Cardui had the claimed action an experimenter would take a certain number of cases of amenorrhea, perhaps 50, and divide them into two sets; treat 25 with Wine of Cardui and the others without it and then make an estimate of the amount of the material passed at the time of the menstrual period. Such trials carried out in a hospital, where the physician receives his reports from nurses and is not obliged to depend on the statements of the patients, he explained, would be as reliable as a properly conducted pharmacological experiment (Jour. A. M. A., April 15, 1916, p. 1219).

Diagnosis of Female Disorders.—Manufacturers of "uterine wafers," etc., often advise the use of their preparations without physical examination of the patient when patients are disinclined to submit to such physical examination on the chance that one of the asserted constituents of the proprietary may hit the cause of the trouble. In this connection the testimony of J. Clarence Webster, professor of Obstetrics and Diseases of Women in Rush Medical College, Chicago, in the "Wine of Cardui" case is of interest. He was asked: ". . . Is it necessary to make an examination of the female pelvis in order to determine the condition, the underlying cause of the condition and the treatment which is necessary?" He replied: "It is necessary. . . . Because from symptoms one can rarely have any accurate idea of the pathological condition in the body, in this part of the body. . . . There are many symptoms which are common to different conditions and consequently it is necessary in analyzing a case to make a careful physical examination." Again, when asked "Can you determine, or can the conditions of the uterus, or pelvic organs be determined merely by attention to description of symptoms which a patient gives?" he replied "I cannot" (Jour. A. M. A., April 22, 1916, p. 1337).

Proper Self-Medication.—In the course of his testimony in the "Cardui" trial, John Leeming, M. D., Chicago, explained the extent to which self-medication is to be encouraged. Asked if it was very dangerous for a person who thinks he has a cold to take some aspirin without going to a doctor, he replied that, while in exceptional cases it might be exceedingly dangerous, in most cases of simple cold it would not be so in that Nature's recuperative powers would in most cases throw off such a cold. He explained that he always advises his patients how to treat themselves for simple ailments and to come to him when there are danger signs. Asked if it was dangerous for a person with a cough to get any medicine without a diagnosis, Dr. Leeming replied that it would not be dangerous at all if the person understood his case and in consultation with his doctor he has been generally advised. In families where he is the attending physician he often advises not to send for him in case of a slight cold, but to take a little medicine that will help Nature to throw it off (Jour. A. M. A., April 22, 1916, p. 1330).

What is a "Medical Authority"?—There has been a tendency to look upon publishers of text books as authorities and not to consider a physician as an authority on a certain subject unless he has written a text book on it. That the publication of a book does not prove its writer to be an authority is the opinion of J. Clarence Webster of Rush Medical College expressed at the "Cardui" case, which is being tried in Chicago. Having referred to Frank Billings as an authority, Webster was asked to define the term "authority." He replied: "As far as a human being can be an authority on anything, I would regard a man who had worked at a particular subject in a scientific manner over a period of time, and who had more experience in that subject than other people, or most other people, as the best human authority that could be found." Asked if a man was more of an authority if he had written a book, Webster replied: "Often less in the eyes of the world" (Jour. A. M. A., April 29, 1916, p. 1410).

Viburnum Prunifolium Inefficient.—J. Clarence Webster, holding the Chair of Obstetrics and Diseases of Women in Rush Medical College, testified in the "Wine of Cardui" case that he gave up the use of fluid extract of viburnum prunifolium because he believed that the benefit that he obtained from its use in pain in association with menstruation, was due to the alcohol in it. He had never had any reason whatever to believe that viburnum was of any value in warding off a threatened abortion. When in cases of painful menstruation he used the solid extract which contained no alcohol, he could not get the same results that he had obtained before and he gradually gave up the use of the drug altogether. Arthur A. Small, senior physician at St. Joseph's Hospital, Chicago, testified of extensive experience with the use of viburnum prunifolium, while resident physician in the Toronto General Hospital. As a result of his experience there he is of the opinion that viburnum prunifolium is of no value in the treatment of female diseases. In these experiments both the fluid extract and the solid extract were used and it was found that the alcoholic solutions would prevent or lessen pain in some cases. In other words, the only action was that of the alcohol. J. B. DeLee, holding the Chair of Obstetrics at the Northwestern University School of Medicine, testified that years ago he gave large quantities of extractum viburnum prunifolium for the prevention of miscarriage, but found it useless (Jour. A. M. A., April 22, 1916, p. 1338; May 13, 1916, p. 1566; May 20, 1916, p. 1639).

When Medicines are not Required or are Useless.—Promoters of proprietary "uterine tonics" would have their preparation administered to girls and to pregnant women whether indicated or not and in conditions where medicines plainly can do no good. The testimony of E. E. Montgomery, Professor of Gynecology at Jefferson Medical College, Philadelphia, in the "Cardui" trial forcibly brings out the objections to the indiscriminate administration of medicines to girls and women and the futility of their use in cases which need surgical attention. Regarding the administration of "tonics" to girls at puberty he said that to advise a girl who is undergoing a physiological process that she must take some medicine which contains alcohol or any habit-forming drug at this period of her life, which is the most impressionable period of her existence, is doing that which is placing her future in peril, and is without any possible benefit. Regarding the administration of a "tonic" such as Wine of Cardui is supposed to be, he testified that it can do nothing but harm; that a woman because she is pregnant, pregnancy being a physiological process, does not need medicine, but needs attention. Regarding the use of medicines in uterine prolapse as a means of strengthening the unstriated muscle and thus to help the muscle to perform its work to hold the womb in place, Dr. Montgomery explained that the unstriated muscle in the woman is not likely to be affected by medicine and that the tissue outside the womb is unlikely to be affected by medicine; to give medicine in the case of a woman who has prolapsus is just about as reasonable as to bathe one's suspenders with a solution when the elastic tissue has been destroyed from them (Jour. A. M. A., May 6, 1916, p. 1481).

REVOKED CERTIFICATES.

Supplement to Directory of Licentiates Issued June 1, 1916.

Baker, Charles R., revoked December 7, 1914.
Carleton, Charles H., revoked July 31, 1911. Convicted of violation postal laws, mailing matter re abortions.
Chamley, S. R., revoked December 15, 1915.
(Condory, Vilmas, suspended for one year from January 11, 1916).
Crocker, H. B., revoked June 15, 1914.
Edwards, Homer C., revoked December 15, 1915.
Freeman, Gideon M., Sr., revoked April 12, 1915.
Grosshauser, F., revoked April 7, 1909. License procured by fraud.
Hunt, A. L., D. O., revoked April 16, 1915.
Huntington, Ralph, revoked April 7, 1909. Convicted of manslaughter.
Lee, B. Brooks, revoked August 4, 1908. Convicted under alias of R. Brook Sterling. violation postal laws, mailing matter re abortion.
Meadows, L. H., revoked December 23, 1905.
Sherrod, L. L., revoked December 21, 1906.
Thornburg, H. T., revoked December 2, 1912.
Watson, C. P. V., revoked June 15, 1914.
Williams, N. W., revoked December 2, 1912.
Wilson, H. McGregory, revoked December 23, 1905.

A NOTABLE PATENT MEDICINE SUIT.

The outcome of a recent suit for damages claimed by a proprietary medicine concern from the American Medical Association, which through its Journal had unfavorably commented upon the curative and other claims for this preparation, may serve as an illustration of the present ethical status of the medical profession as well as of the high standard maintained by the American Medical Association, which represents the best interests of the public.

The verdict giving to the nostrum owners one cent damages, though a technical and legal defeat, is in fact a moral victory for the association. The verdict is remarkable when the fact is considered not only that the association had to defend itself against the assaults of its avowed enemies but that members of medical societies, among them actually fellows of its own organization, appeared as witnesses for the prosecution. It is remarkable under these circumstances that a lay jury dealt so kindly with the defense.

That doctors differ is proverbial, but that they should disregard the interests of their own association, which aims to protect the public against abuse of secret remedies that lay, as we have shown, an enormous money tribute upon them, besides the loss of health and life from neglect of the early stages of disease arising from trust in the representations of the manufacturers, is remarkable. The motives of these doctors are not impugned. But their action does shake public confidence in the value of drug treatment.

The Journal of the American Medical Association says truly in its number of July 15: "The association has the support, numerically and intellectually, of the profession and is rapidly gaining the support of the public." The Sun has recognized the former and has endeavored to further the latter. The Association's work is in fact primarily in the interests of the lay public, for its function is to protect the innocent from the menace of quackery and the danger to health and life from faith in the unfounded, misleading and frequently false promises and claims of charlatans.—New York Sun, July 25.

INDUSTRIAL WELFARE NUMBER OF "THE MODERN HOSPITAL."

The August number of "The Modern Hospital," St. Louis and Chicago, is devoted to a symposium on welfare work among the industrial corporations of the country. There are editorials by those competent to write on this important subject, a great number of papers written by welfare directors in some of the most important industrial corporations, and an immense amount of statistics and figures and facts showing the huge volume of work that the corporations are doing to protect their employees against sickness, accidents, and discontent. The journal contains many illustrations of first aid stations, emergency hospitals, and welfare departments of industrial plants, and many facts that should be of great help to those interested. Among the topics discussed are those of first aid, industrial nursing, lunches and diets for industrial employees, safety devices in factories, and athletic and social clubs for employees. The editors frankly state that they have been unable to obtain figures as to cost of welfare work in the industries, but a number of writers attempt to make deductions and draw conclusions from their experiences of the past few years.

THE PHYSICIAN'S HEALTH AND ACCIDENT INSURANCE COMPANY OF CALIFORNIA.

The following matter has been contributed by a gentleman, a member of the Society, who does not wish to have his name attached to it but who wishes it offered as a subject for discussion by the members of the society. Anyone taking an interest in this plan or proposition is requested to write to the Journal in regard to it.

There are approximately 6500 registered physicians in the State of California and a part of them are doing the work required by the State Accident Insurance Company and several private insurance companies doing business in this state, and the stockholders of these private insurance companies are receiving large dividends on their stock, which shows that the insurance business is a good paying business.

We as a profession will soon be confronted with health insurance, which will also call for our cooperation and acceptance of small fees for our services. Would it be advisable to organize an insurance company, to issue policies both of health and accident insurance, organized and incorporated for such purposes by the medical fraternity of the state?

The plan which I would suggest, would be to issue one share of stock to every physician in the state, at one hundred dollars a share, which would give approximately six hundred and fifty thousand dollars as a paid in capital, and adopt the prevailing schedule of prices for medical and surgical services as are now being, or may hereafter be used by the companies doing business in this state, and allow each physician for his services according to such schedule of fees. In this way the profits of the business would revert to the medical profession and every member of the insurance company would be eligible to perform such services as would be needed in cases coming under the company's policies. The details of organization of such a company would all have to be worked out on a scientific insurance basis.

The important question to be decided is, whether the medical profession of California will organize such a company and thereby receive the profits of such, or shall they continue to contribute their services to private insurance companies and allow the profits from their services to go to the stockholders of such private companies?

There is no doubt but that the inauguration of health insurance in this state is a matter of a few months, and it will be just as stable and just as arbitrary in fixing the fees for the medical services

rendered as the accident insurance companies have been. I would suggest that the Journal of the State Medical Society publish this and request each registered physician of the state to write to the Journal expressing their sanction or disapproval of the organization of such a company and whether they would subscribe for one share of stock in case the plan is sanctioned by enough physicians to make it a feasible working plan.

MEDICAL PREPAREDNESS LEAGUE.

A course of instructions under the auspices of the Medical Preparedness Section of the County Medical Society, every Thursday from 4:30 to 5:30 p. m., for fourteen weeks, beginning September 7, 1916, at the County Medical Library, Butler Building.

This course is similar to the one outlined by Major Chamberlain, Medical Corps, U. S. Army, for Harvard University.

This course will give the practicing physician an opportunity to become familiar with Medico Military matters. Every man who desires to increase his knowledge, to improve his efficiency in case of war, should attend.

The section has interested military men who are stationed in the vicinity of San Francisco, and has the approval of the Surgeon General, office at Washington, D. C.

Schedule for September 7, 14, 21 and 28.

1. The Organization of the Army: Line and Staff, and the "Administrative Zones" in War, Major John W. Hanner, Medical Corps, U. S. Army (30 minutes).

Synopsis: Composition of Land Forces; the Mobile Army, and the Coast Artillery. Present peace strength authorized: present war strength authorized. Line: Regiments, Brigades, Divisions, Field Armies, Armies. Staff: General Staff, Adjutant General's Department, Judge Advocate General's Department, Quartermaster Corps, Medical Department, Corps of Engineers, Ordnance Department, Signal Corps. The service of the Interior: The service of the theater of operations; (1) Zone of line of communication, (2) Zone of the advance.

Discussion opened by Colonel Guy L. Edie, Medical Corps, U. S. Army (five minutes); discussion closed promptly on the hour.

2. The Sanitary Service of the Premobilization Period, Major G. DeVoe, Medical Corps, U. S. Army.

Synopsis: A. Examination of individual soldiers, physical, mental, laboratory. B. Prophylactic treatment for smallpox and typhoid; for venereal diseases. C. Communicable diseases: diphtheria, meningitis, etc., diagnosis, isolation, carriers. D. Water and milk supply; disposal of excreta and wastes.

Discussion opened by Dr. Benjamin Jablons.

3. Diseases of War: their Prevention, Control and Treatment. Major Lloyd L. Smith, Medical Corps, U. S. Army.

Synopsis: Losses from sickness in the wars of the past century. Factors determining the high rate of sickness in war. Infectious diseases of the intestinal type; other diseases of interest. Preventive and remedial measures for dealing with disease in war.

Discussion opened by Dr. J. Wilson Shiels.

4. Medical Supplies and Equipment. Colonel Henry I. Raymond, Medical Corps, U. S. Army.

Synopsis: Supply Tables of Manual for Medical Department, 1916. Post, Dental and Field supplies. Equipment "A," "B" and "C." Sera and vaccines, how obtained? Field supplies held in custody of Regimental Surgeons in time of peace, what? "A Medical Reserve Unit." Base and Advance Medical Supply Depots. Field supplies for sanitary formations in the zone of operations. Individual equipment, Medical Officer.

Discussion opened by Major Morrison C. Stayer, Medical Corps, U. S. Army.

NAVY SURGEONS.

The next examination for appointment in the Medical Corps of the Navy will be held on or about October 23, 1916, at Washington, D. C.; Boston, Mass.; New York, N. Y.; Philadelphia, Pa.; Norfolk, Va.; Charleston, S. C.; Great Lakes (Chicago), Ill.; Mare Island, Cal., and Puget Sound, Wash.

Applicants must be citizens of the United States and must submit satisfactory evidence of preliminary education and medical education.

The first stage of the examination is for appointment as assistant surgeon in the Medical Reserve Corps, and embraces the following subjects: (a) anatomy, (b) physiology, (c) materia medica and therapeutics, (d) general medicine, (e) general surgery, (f) obstetrics.

The successful candidate then attends the course of instruction at the Naval Medical School. During this course he receives a salary of $2000 per annum, with allowances for quarters, heat and light, and at the end of the course, if he successfully passes an examination in the subjects taught in the school, he is commissioned an assistant surgeon in the Navy to fill a vacancy.

Full information with regard to the physical and professional examinations, with instructions how to submit formal application, may be obtained by addressing the Surgeon General of the Navy, Navy Department, Washington, D. C.

The foregoing information is furnished as it is believed that it is of interest to you, and that you will want to give it some notice in your Journal.

Very truly yours,

W. C. BRAISTED,
Surgeon General, U. S. Navy.

NEW MEMBERS.

Hyde, O. C.—Lincoln.
Lane, J. A.—Ferndale.
Bishop, T. W.—Los Angeles.
Jacobs, Edward H.—Los Angeles.
Duncan, Rex D.—Los Angeles.
Richter, Louise M.—Los Angeles.
Blanchar, Wm. Otis—Los Angeles.
Clark, W. S.—Los Angeles.
Hoag, E. B.—Pasadena.
Athon, L. H.—Los Angeles.
Beach, Everett Chas.—Los Angeles.
Sisson, Charles E.—Norwalk.
Barrow, Jno. V.—Los Angeles.
Bogue, H. E.—Los Angeles.
Hubbard, Clinton D.—Huntington Park.
Roen, Paul B.—Hollywood.
Syer, Wm. Henry—Los Angeles.
Turner, James Henry—Huntington Park.
Charlton, Cecil Floyd—Los Angeles.
Outlaw, John S.—Los Angeles.
Creamer, Michael S.—Los Angeles.
Conlin, B. M. J.—Long Beach.
Evans, C. L.—Los Angeles.
Kirkpatrick, J. L.—Los Angeles.
Brown, Blanche C. B.—Los Angeles.
Hughes, H. W.—Los Angeles.
Jackson, J. Addison—Hollywood.
Sugarman, Herman—Los Angeles.

DEATHS.

Painter, Geo. L.—San Francisco.
Milton, Joseph L.—Oakland.
Eads, E. E.—Los Angeles.
Callaghan, Daniel T.—San Francisco.
Wilson, Andrew P.—Los Angeles.
Wise, Kenneth D.—Los Angeles.
Burtt, L. W.—Lancaster.